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PC Computing

TECHNOLOGY IN THE LANGUAGE OF BUSINESS

Win Cool Hardware!
See Page 252

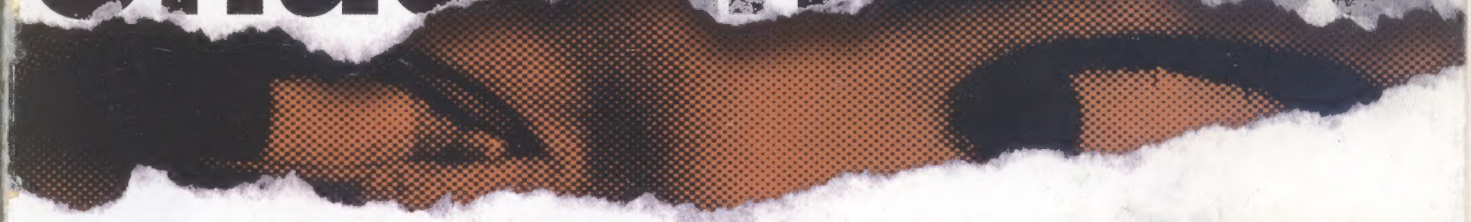
Coolest Digital Cameras

Dirt-Cheap Scanners

Photo-Quality Printers

Super System Tips

Undocumented

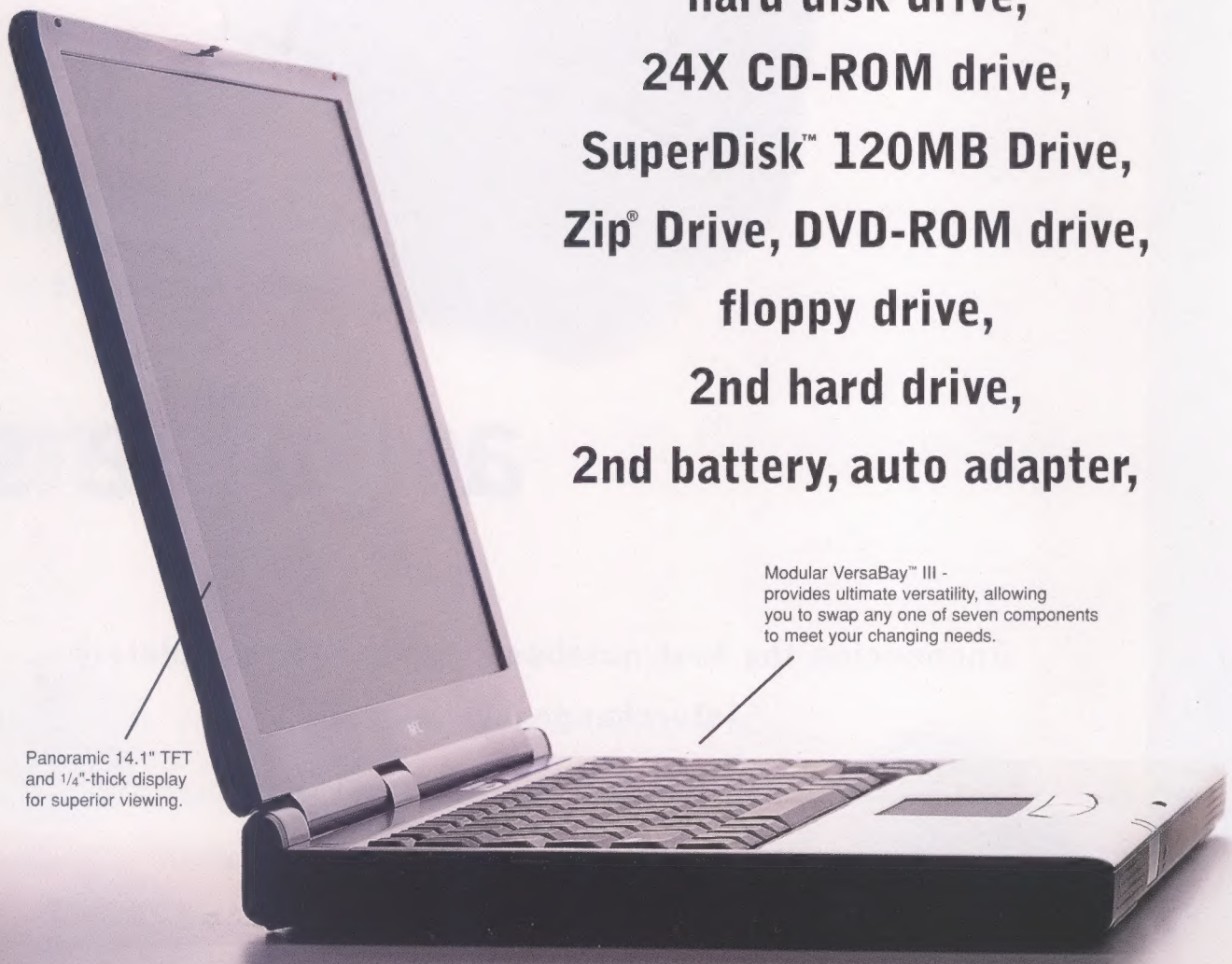


INTERNET SECRETS

Revealed for The First Time: Hundreds of Amazing Web Tricks They Don't Want You to Know!

NOVEMBER 1998

Only one family of notebooks shares the same docking station, port replicator, AC adapter, memory modules, hard disk drive, 24X CD-ROM drive, SuperDisk™ 120MB Drive, Zip® Drive, DVD-ROM drive, floppy drive, 2nd hard drive, 2nd battery, auto adapter,



NEC Versa SX

The world's thinnest and lightest full-featured Pentium® II processor-based modular notebook (1.3" thin and as light as 4.8 lbs.).

NEC Versa SX

and the sa

Announcing the first notebook family with completely interchangeable parts.

Docking Station

Never before has a family of notebooks had this much in common. With everything from swappable battery packs to universal docking stations, the Versa® family offers a level of cross-compatibility you can't get anywhere else.

Modular VersaBay III for all bay devices

This extraordinary family even shares industry-leading display technology

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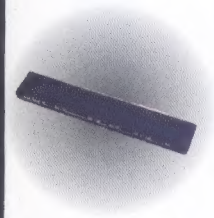
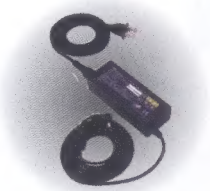
NEC Versa LX

ame logo.



Port Replicator

that gives you 13.3" or 14.1" TFT displays, which consume 20% less power, are 20% lighter, and are 33% thinner than previous LCDs. What's more, you get all this for a starting price of just $2599. So when you consider how many remarkable innovations Versa notebooks have in common, it's no wonder they also share the same logo — NEC.



AC Adapter

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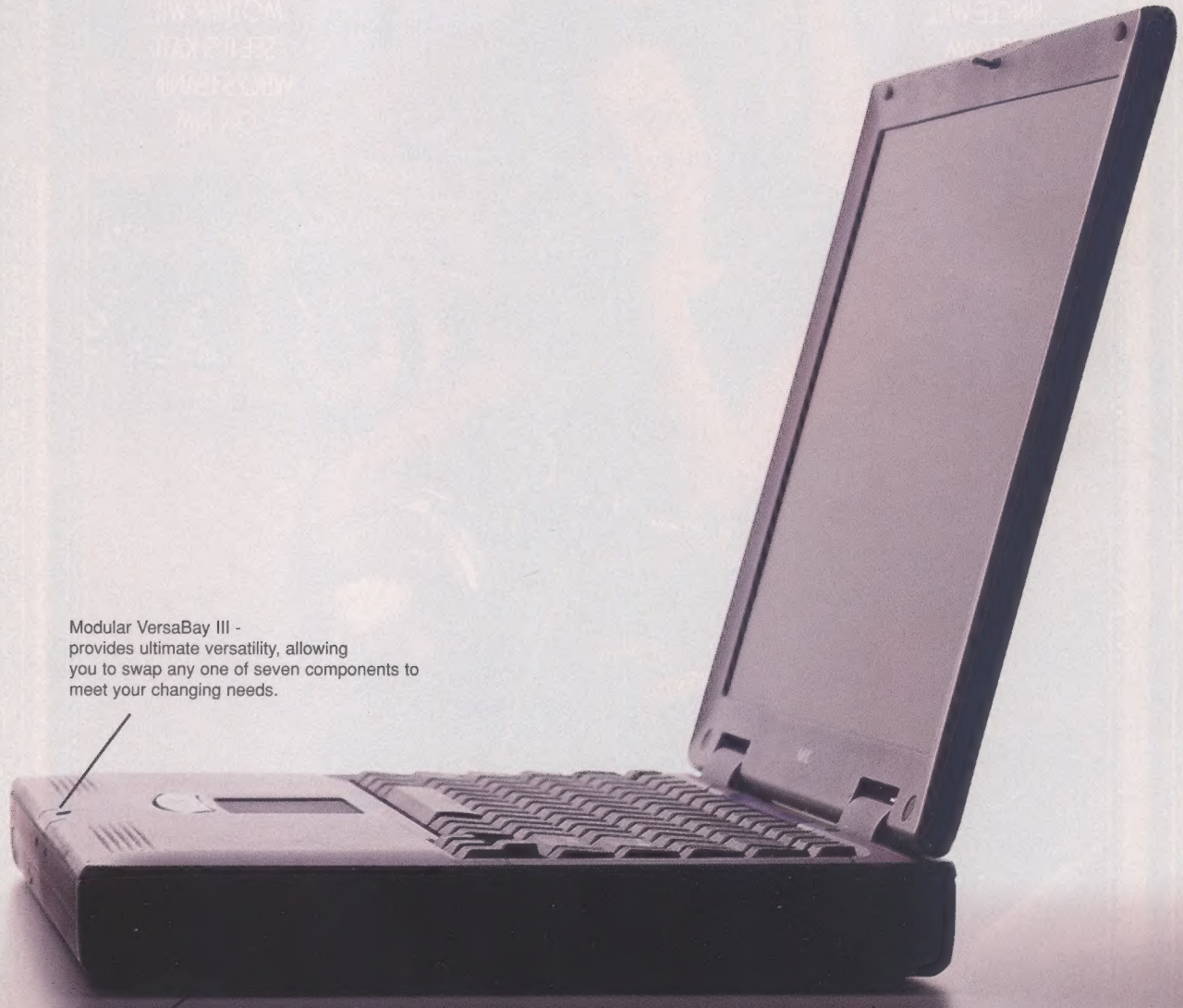
Infolink 236 at: www.pccomputing.com/infolink



Modular VersaBay III - provides ultimate versatility, allowing you to swap any one of seven components to meet your changing needs.

PC Magazine Editors' Choice, August 1998 Blockbuster Issue.

NEC Versa LX

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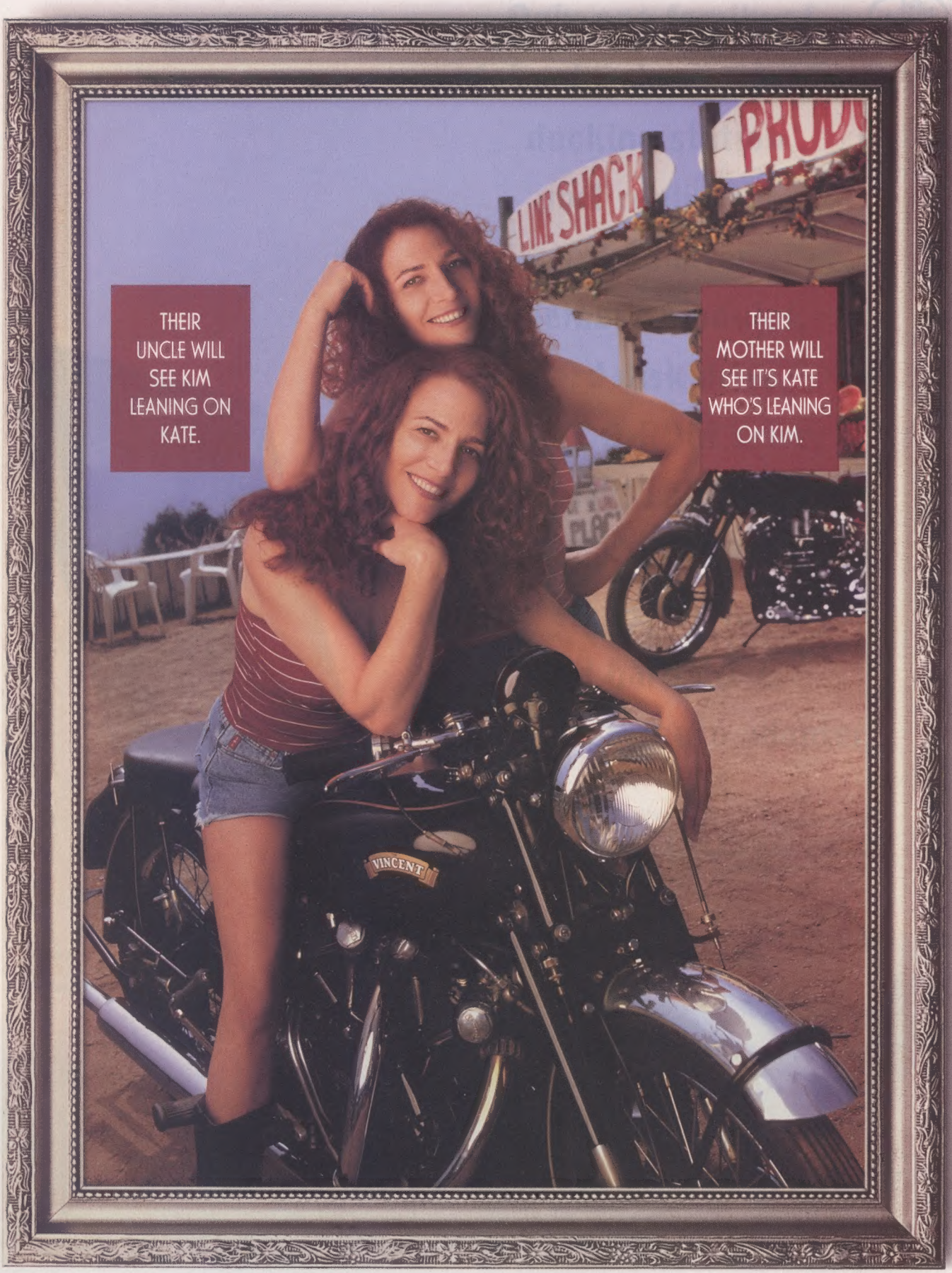
THEIR UNCLE WILL SEE KIM LEANING ON KATE.
THEIR MOTHER WILL SEE IT'S KATE WHO'S LEANING ON KIM.
LIME SHACK
VINCENT

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Calling all power-hungry office nomads. The new Sony 800 Series Notebooks are not only loaded with power, they're designed to expand with plug-in hard drives and extra RAM (see specs for details). Underlining all that capacity is their roadworthy 3MAX™ features, only from Sony. **Max. Mobility, Max. Screen, Max. Battery.** What better way to take some of the sacrifice out of travel?

intel inside pentium® II PROCESSOR

^Using optional 2nd battery in removable drive bay.
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- Remote control headphones
- Digital touch pad
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- V.90 compatible modem
- High-capacity Lithium-Ion battery
- 128-bit graphics accelerator
- 24X maximum CD-ROM drive included
- Windows 98 pre-installed
- Built-in Stealth 3D stereo speakers
- Remote control headphones
- Digital touch pad
- Removable drive bay for CD-ROM, floppy disk drive, 2nd battery or 2nd hard drive

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Cover Story

Undocumented Internet Secrets

Unlock hidden sites even the search engines miss, dig up dirt on anyone, and tap into incredible stashes of freebies for business and home! Our experts uncover hundreds of undocumented Internet tips, tricks, and shortcuts you won't find anywhere else. **152**

Digital Camera and Scanner Superguide

Snap photos without film, edit them on your PC, and publish them to the Web or your printer in seconds. It's easy with new low-cost digital cameras, scanners, and color printers that turn any PC into a high-tech digital darkroom. The best part? The whole process is cheaper and faster than film. **208**

Best Digital Cameras *Click!* Get instant color photos on your PC with today's amazing, affordable digital cameras. The smallest ones even fit in your shirt pocket. **218**

Best Scanners Why should the art department have all the fun? Dirt-cheap color scanners copy your favorite photos in seconds. They double as copiers and fax machines too. **230**

Best Photo Printers Print custom color snapshots that you'll swear came from a professional darkroom with these digital photo printers. They're affordable too. **240**

Digital Photo Contest Win free digital cameras, scanners, printers, software, and other digital photo gear—it's easy! Details on our 1st annual Digital Photo Contest inside. **252**

A-List

EDITORS' TOP PICKS IN 100 PRODUCT CATEGORIES

Best Hardware Why settle? Get the best 3-pound notebook (it runs Windows!), the top digital camera, the fastest servers, and killer color printers. **59**

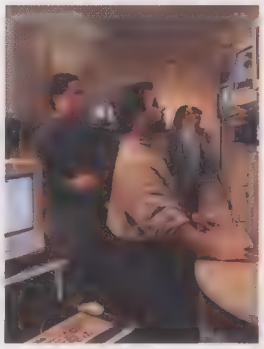
Best Software Pay your bills with the push of a button; fix what's wrong with Win98; an office organizer that works the way you do; and the perfect investment advisor. **64**

Best Internet The best of everything on the Net: the top spam filter, e-broker, site designer, and ISP. Also inside: free faxing and e-mail. **72**

SOHO

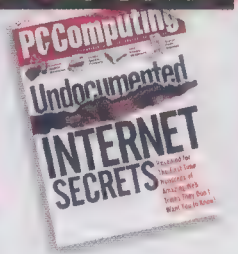
Win95, Win98, Or NT?

Is it finally time to switch? Get the lowdown on which version of Windows is faster, easier, and more reliable. Plus, the hidden cost of upgrading. **263**



NOVEMBER 1999 VOLUME 11 NUMBER 11

On the Cover



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94 **Pinnacle Systems Studio 400** All-in-one digital video editor.

96 **Diamond Multimedia SupraSonic II** Double your modem speed.

96 **WebGear Aviator Wireless Networking Kit** Wireless networking comes home.

98 **NetGear 100Mbps Network Starter Kit** Instant small-office network.

98 **Olympus D1000 Digital Voice Recorder with ViaVoice Transcription** Take notes just by talking—anywhere.

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108 **Symantec Norton SystemWorks vs. McAfee Nuts & Bolts 98** Crashproof your PC.

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114 **Microsoft PhotoDraw 2000** The cure for common clip art.

116 **ScanSoft Pagis Pro 2.0, Visioneer PaperPort ScannerSuite, NewSoft Presto PageManager 98 Gold Edition** Move paper off your desk and onto your hard drive.

118 **Compaq Support Software CD** Complete office support system.

118 **Thinkstream Scan-O-matic** Antidote for document overload.

120 **Kinetix 3D Studio Max R2.5** Jaw-dropping 3-D effects.

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.net

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282 **NT Project: Speed Tricks** Smash NT bottlenecks and make your PC run faster. We show you how.

284 **How It Works: DVD-RAM** The magic of DVD-RAM drives.

286 **Woody's Workshop: Search Engine Shortcuts** Find what you're looking for faster on the Web. Plus, PowerPoint shortcuts and expert Registry tricks.

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STORY #97:

Give Them the Tools They Need

TINKER with this: you're a department manager for a large tool distributor. You supply what the well-equipped handyman is looking for these days (which happens to be the latest power drills and screwdrivers that do his job and more). Multi-function is the catch phrase on the shop floor—and with your mobile sales force.

[*"If I can't give my team their own all-in-one tool, it throws a wrench in my sales strategy,"*]

you insist. That's why you insist on the new Fujitsu LifeBook™ L Series notebooks. We listened to what you wanted, and responded with a slim and light notebook with innovations like an optional detachable Multi-function Bay and an optional Mobile LAN Dock with built-in Ethernet. So you can move from extremely portable to extremely powerful in minutes.

[*"We need notebooks with options. I can't hammer on that point enough,"*]

you tell anyone who'll listen. And, of course, we did. We added the gadgets you asked for, but didn't forget the basics you demand. Performance, reliability and durability are still at the foundation of every LifeBook notebook. So while your team is on the road selling to the Mr. Fix-its of the world, we've been playing Mr. Fix-it ourselves. And we've come up with a handy Multi-function tool for your business. Put it to work today.

LIFEBOOK

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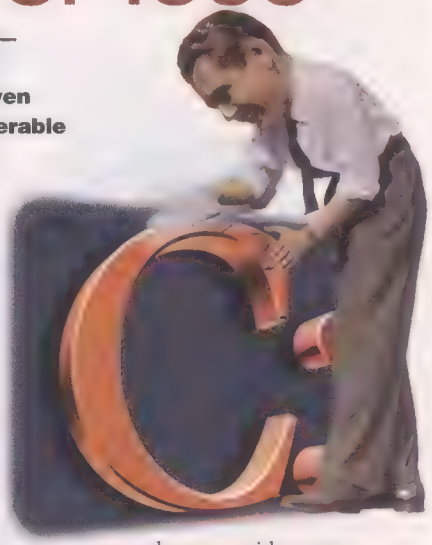
Designed for Microsoft® Windows NT® Windows® 98

intel inside pentium® II PROCESSOR

The Other OS Story of 1999

The long-awaited arrival of Windows NT 5.0 will be the big PC story of 1999—assuming Microsoft manages to meet its (latest) delivery date. But there's another OS story unfolding, in another market, that may ultimately prove even more important than NT. Which operating system? Get ready: DOS, the venerable command-intensive workhorse that was once the standard operating system for IBM-compatible PCs, the OS that preceded Windows, the OS that has been all but abandoned by Microsoft.



In this Windows-centric world, DOS seemed destined to live out its days as another relic in the Museum of Computing History. But a revamped, reconstituted version of it may be the OS of 1999. Here's why:

Since 1997, Utah-based Caldera has sold 3 million copies of DR-DOS, an MS-DOS–compatible operating system acquired from Digital Research by way of Novell. And Caldera has repositioned DR-DOS for a market at least ten times larger than personal computing.

Which market? The embedded systems market for small devices that connect to a network, an intranet, or the Internet itself. Cash registers. Smart phones. Fax machines. Personal digital assistants. The market is already on fire and ready to explode. But this is not your father's operating system: Caldera has rejuvenated DR-DOS with a graphical Web browser that can run on a 40MHz 386 with just 4MB of RAM. It also has key Internet protocols, including TCP/IP, HTTP and FTP, and year 2000 support.

These features explain why DR-DOS appeals to hardware and software manufacturers who are focused on the embedded systems space. It provides a tidy, compact way to access the Internet. And it's a robust, tested system with proven tools and thousands of savvy programmers.

True, DR-DOS has dozens of competitors in the burgeoning embedded

VITAL SIGNS By Alison McKinley

Future Connections Today, dial-up modems account for more than 95 percent of access to ISP accounts. But adoption of much faster cable modems and ASDL is on the rise, and by 2002 dial-up modems will account for only about 75 percent of ISP access. Cable modems, which are fast and easy to set up, will find a booming market in cable-ready homes. ASDL, in contrast, is available primarily in urban areas and will find its niche in the business world, relying on existing phone lines. ISDN, another connection contender, will likely never experience strong growth due to the expense and inconvenience of installing new lines.

Access in 2002
(projected percentage of online accounts)

SOURCE: EMARKETER

E-mail Usage
(in millions)

SOURCE: FORRESTER RESEARCH

You've Got Mail Pay your ISP with the money you save on stamps. An estimated 55 million homes today are wired for e-mail communication, sending a total of 150 million messages per day. E-mail is a cheap, convenient, and almost instantaneous form of communication for business transactions and mass marketing (OK, *spam*) and to otherwise avoid face-to-face interaction. Even the U.S. Postal Service is considering a proposal to assign a virtual address to every street address in the United States.

Printer Shipments
(in millions of units)

SOURCE: ZD MARKET INTELLIGENCE

Color Me Happy We don't live in a black-and-white world—why print in it? Total unit sales of desktop printers are expected to increase at an average annual rate of 9 percent through 1999—an increase driven primarily by color ink-jet printers. Sales of color ink jets eclipsed those of all other desktop printers in 1994 and will account for 75 percent of printer sales in 1999. Color ink-jet printers currently account for 32 percent of all installed PC printers—and for 50 percent of printers in homes, where adoption has been most rapid.

Playroom Staple Grows Up Lego, maker of the popular building-block sets, targets an older, computer-literate crowd with its Robotic Invention System. Circulate your Christmas list early.

PC Old Guard Slumping A fundamental shift is moving build-to-order vendors Dell and Gateway onto the throne—while Compaq, IBM, and others of the old guard revisit tired business models.

Smart Cards Closer With Visa and American Express teaming up on a universal smart card standard, the electronic wallet gains momentum.

Slow Road to ADSL With phone companies testing superfast Internet access in select locales, it's easy to get excited. Don't. It's a long way off for most.

Flashy Web Page Ads Web surfers click on ads that offer a chance to win something, do something, or get something free. What doesn't generate clicks? Animation, humor, and colorful graphics.

By Jesse Berst

For links and more information on any story mentioned here, go to www.pccomputing.com/radar

systems market. But that's not the only arena where it has potential. It's a natural for refurbished computers, since older 386 and 286 PCs still use DOS—and the Caldera version gives them an Internet browser. Since it can run a browser in 4MB, a device running DR-DOS could be the ultimate low-cost network computer. Less likely is a role in the handheld market. Caldera would have to persuade OEMs not to move to Windows CE, or settle for a chunk of the market's low end, where its minimal memory requirements can save money.

Apparently what goes around does come around. Even in the digital world.

Mainframes Bulk Up IBM leaves mainframe rivals Hitachi and Fujitsu in the dust with its new line of G5 mainframes that boast data-crunching capabilities of up to 1,040 MIPS (million instructions per second). Mainframes handle high-volume data processing chores; they're the computing power behind bank ATMs and phone company networks. IBM has long been the world's top supplier of mainframes, but it's been a while since Big Blue actually kicked butt in the performance category.

Play Nice The CEO of streaming-media company RealNetworks pushed a hot button when he complained at a Senate hearing that Microsoft's Web media player disabled his own company's media player. Netscape, Sun, Novell, and others joined RealNetworks to propose Web manners that ensure products "ask, tell, and help" users. But guess which big software company called them "too broad" to endorse?

E-mail for All At the request of the Clinton Administration, the U.S. Postal Service is exploring a system to create universal e-mail addresses that go along with street addresses. They're considering using the under-appreciated .us domain. Wind, rain, sleet, or hail can't stop the U.S. mail. But we're guessing low bandwidth can.

Jesse Berst is the founder of ZDNet AnchorDesk. To sign up for Jesse's free e-mail newsletter, go to www.pccomputing.com/radar.

A revamped, reconstituted version of venerable old DOS may be the operating system of 1999.

REALITY CHECK — JESSE'S SPIN

WHAT THEY SAY	WHAT THEY MEAN
"We may be the only people in town or in the country who welcome receiving spam." Jodie Bernstein, director of the FTC Consumer Protection Bureau, commenting on the 1,000 to 1,500 junk e-mails consumers forward to the agency daily, Reuters, July 1998	The Internet has made fraud investigation a snap. We can do an electronic sting without ever leaving the office.
"The value of Intel Inside has been vastly overrated. [You] can buy a PC today that can do everything you need to do today and tomorrow by buying a processor other than Intel's—and that won't be a problem." Steve Tobak, VP of corporate marketing and communications at Cyrix, discussing a survey revealing the growing number of companies willing to buy non-Intel PCs, ZDNN, August 1998	It certainly won't be a problem for Cyrix. We've hovered outside for years, envying a market that preferred Intel inside.
"It's important to us to have the deep pockets a large public offering would give us, in order to grow to the kind of full-scale company we want to be." Seth Warshavsky, a leading Internet pornographer, on efforts to take his Internet Entertainment Group public with an IPO, MSNBC, July 1998	It's not enough to be the prince of online sleaze. I want to be king!

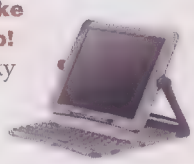
By Don Steinberg

For links and more information, visit www.pccomputing.com/radar

What's in Your Pocket?

Someday soon, thanks to electronic books, we'll all be carrying the complete Norton critical anthologies in our trousers. (Who's Norton? And why so critical?) But the e-books getting all the hype these days aren't the only weird portable gizmos around for collecting and displaying documents. Read our lips for the scoop on others, plus more forthcoming futuristic and farfetched gadgets.

It Folds Like Paper, Too! Sharp's funky Mobilon TriPad debuts the long-awaited "big-screen" version of Windows CE (code-named Jupiter). Depending on how you swing the TriPad's screen on its hinges, it can become a notebook PC with a keyboard or a portable tablet that accepts pen input on its 9.4-inch, 640-by-480-pixel screen (that's twice the screen height of previous CE machines). The device, due out in the fourth quarter and expected to cost between $999 and $1,099, is joined by other Jupiter-class machines—from the likes of Hewlett-Packard, Philips, and Vadem—that should rattle the portable market. Meanwhile, we're working feverishly to determine the third position that "Tri" apparently refers to.



Handheld with a Difference Dept. The Casio PA-2400 is a Windows CE tablet handheld PC with everything—touch screen, voice recording, PC Card, and CompactFlash expandability—but a keyboard. It's aimed at vertical markets for mobile data collection, but the $799 device runs mainstream apps like Pocket Word, Excel, and PowerPoint, and its big screen is being embraced by refugee Apple Newton developers. Casio is also developing a two-way radio version that will Web-surf and e-mail wirelessly. Only one authorized reseller, Viatek, is handling retail orders.

Corporate Spies Take Note Hewlett-Packard refuses to call its new CapShare 910 a scanner. The $699 "information appliance" is a 12.5-ounce battery-operated gizmo with a tiny LCD screen. You glide it over printed text to capture up to 50 black-and-white pages. It can then transmit its quarry to a handheld or desktop PC, a printer, or an infrared-enabled fax machine. OK, yeah, it's a scanner.

Change the Wallpaper Again, Dude! Researchers from MIT's Media Lab recently published a blueprint for thin electronic paper that could download and display text—the ultimate e-book. Meanwhile, Cambridge-based spin-off E Ink is commercializing this electrophoretic ink technology, which coats a surface with millions of pixel-size particles that can be flipped on (white) or off (black). By 1999 the company envisions uses including store signs that display price updates by radio signal. Other concepts: reusable fax paper and electronic wallpaper. (Wasn't that a '60s band?)

It's Also a Handy Shield The Telxon PTC-1194 is a communicating, pen-based input tablet that transforms into a laptop (with keyboard attachment) or a desktop (with docking station) or mounts in a vehicle. Its 2GB hard disk is shock-mounted in a magnesium case with rubbery Sorbothane (used in high-tech sneakers), and its SVGA display is shielded behind tempered glass, making the Pentium-based system perfect for rugged data-collection fieldwork—or running PowerPoint in a war zone.

Palm Springs Eternal 3Com is expected to one-up its very own Palm III with a newer device this fall, and the company has licensed the Palm operating system to some cool hardware makers. Symbol Technologies sells a Palm-based portable bar-code scanner (pictured below) that's used in aisles by British supermarket shoppers. Qualcomm is making a combination phone/PDA. And PalmPilot inventor Jeff Hawkins just quit 3Com to form a start-up that will make consumer-oriented Palm-based devices. Expect some very funky stuff, though it may arrive post-Y2K.

Extremely Fast Forward Two months ago in this space an expert predicted that within two years we'll have computer-based digital VCRs that go beyond VHS recorders. Time flies—they've arrived now. This month Replay Networks releases ReplayTV, a $995 stand-alone box that records video with nifty playback options—for example, the critically important ability to create a personalized *Suddenly Susan* channel. And Duck Corporation is already out with DuckVision, $39 software that adds VCR-like capabilities to any PC with a TV tuner.

Edited by Gordon Bass.

Not Yet **At Sun Microsystems, engineers dream of embedding UltraSPARC processors and Java applications everywhere. Their blue-sky prototype personal financial portfolio would do everything but dispense cash. Another concept is a "network-ready refrigerator" that could communicate with the supermarket. Now that's an information appliance.**

More customers stayed with Gateway last year than with any other computer company.[1]

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It's about getting the most for your money.

People stay with Gateway™ PCs for the home because they want a computer that does everything — including fit into their budget. Our G-Series was named **Best Home Desktop PC**, receiving the **World Class Award** from the July '98 ***PC World***. You choose the system, and we'll load it up with all the hardware and software your family needs. Including Internet access, and flexible 24-hour service and support online, on-call or by fax. Plus with the Your:)Ware℠ program[2], you'll have the option of trading in your Gateway PC toward the purchase of a new one after two years.

Every Gateway client is unique, and so is every Gateway PC. These systems are just examples of what we can build for you.

The Family Friend G6-333C

- Intel® Celeron™ Processor 333MHz with 128K Cache
- 64MB SDRAM
- EV500 .28 Screen Pitch 15" Monitor (13.9" viewable)
- 4MB 3-D AGP Graphics Accelerator
- 6.4GB Ultra ATA Hard Drive
- DVD-ROM Drive & MPEG2 Decoder
- 3.5" Diskette Drive
- SoundBlaster® AudioPCI™ 64V
- Boston Acoustics® BA635™ Speakers
- U.S. Robotics® 56K³ Voice Winmodem
- Micro-Tower Case
- MultiFunction Keyboard & Mouse
- Microsoft® Windows® 98 & MS® Home Essentials™ Software
- Canon® Color Printer
- Gateway Gold℠ Service for G-Series PCs*

As low as $40/mo. for 48 mos. or $1438**

The Family Foundation G6-350

- Intel Pentium® II Processor 350MHz with 512K Cache
- 64MB SDRAM
- EV700 .28 Screen Pitch 17" Monitor (15.9" viewable)
- 8MB AGP Graphics Accelerator
- 10GB Ultra ATA Hard Drive
- DVD-ROM Drive & MPEG2 Decoder
- 3.5" Diskette Drive
- SoundBlaster AudioPCI 64V
- Boston Acoustics BA635 Speakers
- U.S. Robotics 56K³ Voice Winmodem
- Mid-Tower Case
- MultiFunction Keyboard & MS IntelliMouse®
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- Gateway Gold Service for G-Series PCs*

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The Extended Family G6-450

- Intel Pentium II Processor 450MHz with 512K Cache
- 128MB SDRAM
- VX700 .26 Screen Pitch 17" Monitor (16" viewable)
- 8MB AGP Graphics Accelerator
- 10GB Ultra ATA Hard Drive
- DVD-ROM Drive & MPEG2 Decoder
- 3.5" Diskette Drive
- SoundBlaster AudioPCI 64V
- Boston Acoustics BA635 Speakers
- U.S. Robotics 56K³ Voice Winmodem
- Mid-Tower Case
- MultiFunction Keyboard & MS IntelliMouse
- MS Windows 98 & MS Home Essentials Software
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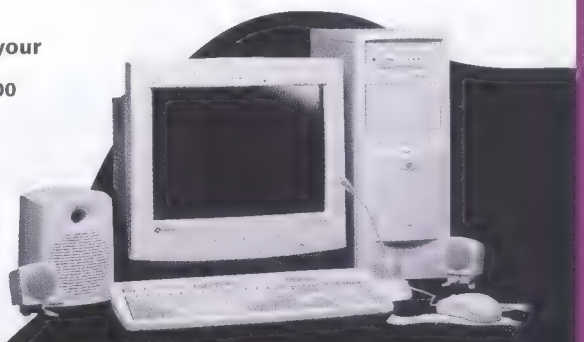
• **Audio Entertainment - $340:** Philips® CD-RW CD-Rewritable Drive, Boston Acoustics MediaTheater™ 3-Piece Speaker System • **Digital Photo Pack - $474:** Epson® Photo™ 550 Color Digital Camera, Philips CD-RW CD-Rewritable Drive • **Kid Start - $148 :** KidBuilder Preschool-Kindergarten Software (includes 7 titles[1]) & kidBoard™ Keyboard • **Grade School Advantage - $178:** Family Reference Bundle (includes 5 titles[1]), KidBuilder Grades 1-4 (includes 7 titles[1]), OR KidBuilder Grades 5-8 (includes 7 titles[1])
[1]Please call for a complete list of software.

Add specific components to do more with your Gateway PC.
- Learning 2000™ Lifetime Library Software*** **$200**
- Visioneer® PaperPort™ 6100 Scanner **$179**
- HP® 722Cse Color Ink Jet Printer **$299**

Ask us about our enhanced service options.

Internet access provided by gateway.net℠ for $14.95/mo.[4]



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It's about having the hottest technology.

People stay with Gateway™ PCs because they know they're getting the hottest technology out there. Our G6-400 won the **1998 World Class Award** from the July '98 ***PC World***. In fact, it was rated **WinList Fastest Performer** by the May/September '98 ***Windows Magazine***. We also just introduced the G6-450, featuring the fastest Pentium® II processor yet. Let us personalize a system just for you. And with the Your:)Ware℠ program[2], you can ride the wave of innovation with the option of trading in your Gateway PC after two years toward the purchase of a new one. We call it obsolescence protection. Another reason technology buffs keep coming back to Gateway.

Every Gateway client is unique, and so is every Gateway PC. These systems are just examples of what we can build for you.

The Speed Demon G6-400

- Intel® Pentium® II Processor 400MHz with 512K Cache
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- EV700 .28 Screen Pitch 17" Monitor (15.9" viewable)
- 8MB AGP Graphics Accelerator
- 10GB Ultra ATA Hard Drive
- DVD-ROM Drive & MPEG2 Decoder
- 3.5" Diskette Drive
- SoundBlaster® AudioPCI™ 64V
- Boston Acoustics® BA635™ Speakers
- U.S. Robotics® 56K[3] Voice Winmodem
- Mid-Tower Case
- MultiFunction Keyboard & MS® IntelliMouse®
- Microsoft® Windows® 98 & MS Home Essentials™ Software
- Gateway Gold℠ Service for G-Series PCs*

As low as $56/mo. for 48 mos. or $1999**

The Screamer G6-450XL

- Intel Pentium II Processor 450MHz with 512K Cache
- 128MB SDRAM
- VX900 .26 Screen Pitch 19" Monitor (18" viewable)
- 8MB AGP Graphics Accelerator
- 12MB 3Dfx™ Voodoo2™ 3-D Accelerator & Extreme Gaming Software I***
- TV/FM Tuner Card
- 16GB Ultra ATA Hard Drive
- DVD-ROM Drive & MPEG2 Decoder
- Philips® CD-RW CD-Rewritable Drive
- 3.5" Diskette Drive
- SoundBlaster AudioPCI 64V
- Boston Acoustics MediaTheater™ 3-Piece Speaker System
- U.S. Robotics 56K[3] Voice Winmodem
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Add on specific packages to customize your Gateway PC to fit your needs.

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Complete Gamers - Voodoo2 Card with Extreme Gaming I & II*** (includes 8 titles[1]), MS SideWinder Precision Pro Joystick **$407**

[1]**Please call for a complete list of software.**

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- Philips CD-RW CD-Rewritable Drive **$225** • Epson® PhotoPC™ 550 Color Digital Camera **$249**

Internet access provided by gateway.net℠ for $14.95/mo.[4]

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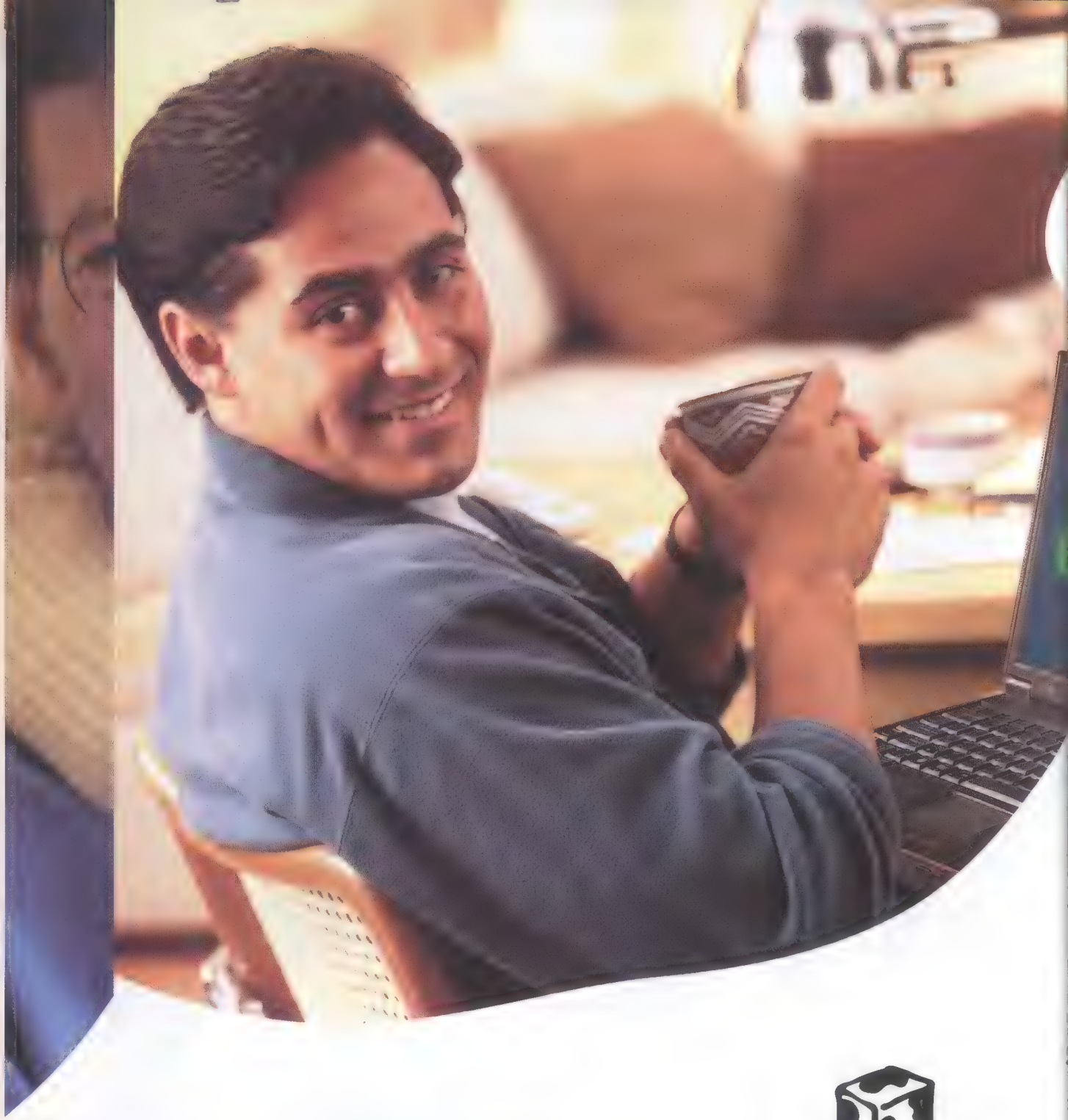

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It's about going portable with award winners.

People stay with Gateway because they know their portables must work and play as hard as they do. Whether it's the affordable and powerful Solo® 2500, or the desktop replacement Solo 9100, both won the August '98 ***PC Magazine*** **Editors' Choice Award**. The Solo 2500 also won the **Best Buy Award** in the same issue. Your portable is your lifeline to your office, to your home, to the resources you need to make the road work for you. Gateway makes sure you're not alone, with 24-hour service and support online, on-call or by fax.

Every Gateway client is unique, and so is every Gateway™ Solo portable. These systems are just examples of what we can build for you.

The Affordable Portable Solo 2500LS

- 12.1" TFT Color Display
- Intel® Pentium® II Processor 233MHz with 512K Cache
- 32MB SDRAM (expandable to 160MB)
- 2MB Graphics Accelerator with 64K Colors
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- 4GB Ultra ATA Hard Drive
- 12-Cell Lithium Ion Battery & AC Pack
- USB Ports, CardBus & Zoomed Video Support
- NTSC/PAL Video Output
- Integrated 16-Bit Sound & Stereo Speakers
- V.90 56K³ Windows® Modem
- Casual Case
- EZ Pad® Pointing Device
- Microsoft® Windows 98 & MS® Office 97, Small Business Edition plus Bookshelf® 98
- LapLink® V.7.5 for Windows 98 & McAfee® VirusScan
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The Road Warrior Solo 5150XL

- 14.1" XGA TFT Color Display
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- Modular DVD II-ROM Drive & 120MB SuperDisk™ Drive
- 6.4GB Ultra ATA Hard Drive
- Two Lithium Ion Batteries with Battery Gauge & AC Pack
- Two USB Ports, CardBus & Zoomed Video Support
- NTSC/PAL Video Output
- Integrated 16-Bit Sound & Stereo Speakers
- V.90 56K³ Windows Modem
- Deluxe Leather Case
- EZ Pad Pointing Device
- MS Windows 98 & MS Office 97, Small Business Edition plus Bookshelf 98
- LapLink V.7.5 for Windows 98 & McAfee VirusScan
- Gateway Gold Service for Portable PCs*

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$3699**

The Portable Desktop Solo 9100XL

- 14.1" XGA TFT Color Display
- Intel Pentium II Processor 300MHz with 512K Cache
- 128MB SDRAM (expandable to 192MB)
- 4MB SGRAM 3-D Graphics Accelerator
- Removable Combo DVD II-ROM Drive & 120MB SuperDisk Drive
- 8GB Ultra ATA Hard Drive
- Two Lithium Ion Batteries & AC Pack
- Two USB Ports, CardBus & Zoomed Video Support
- NTSC/PAL Video Input & Output
- 16-Bit Wavetable Sound & Altec Lansing® Speakers
- V.90 56K³ Windows Modem
- Deluxe Leather Case
- Port Replicator
- EZ Pad Pointing Device
- External Battery Charger
- MS Windows 98 & MS Office 97, Small Business Edition plus Bookshelf 98
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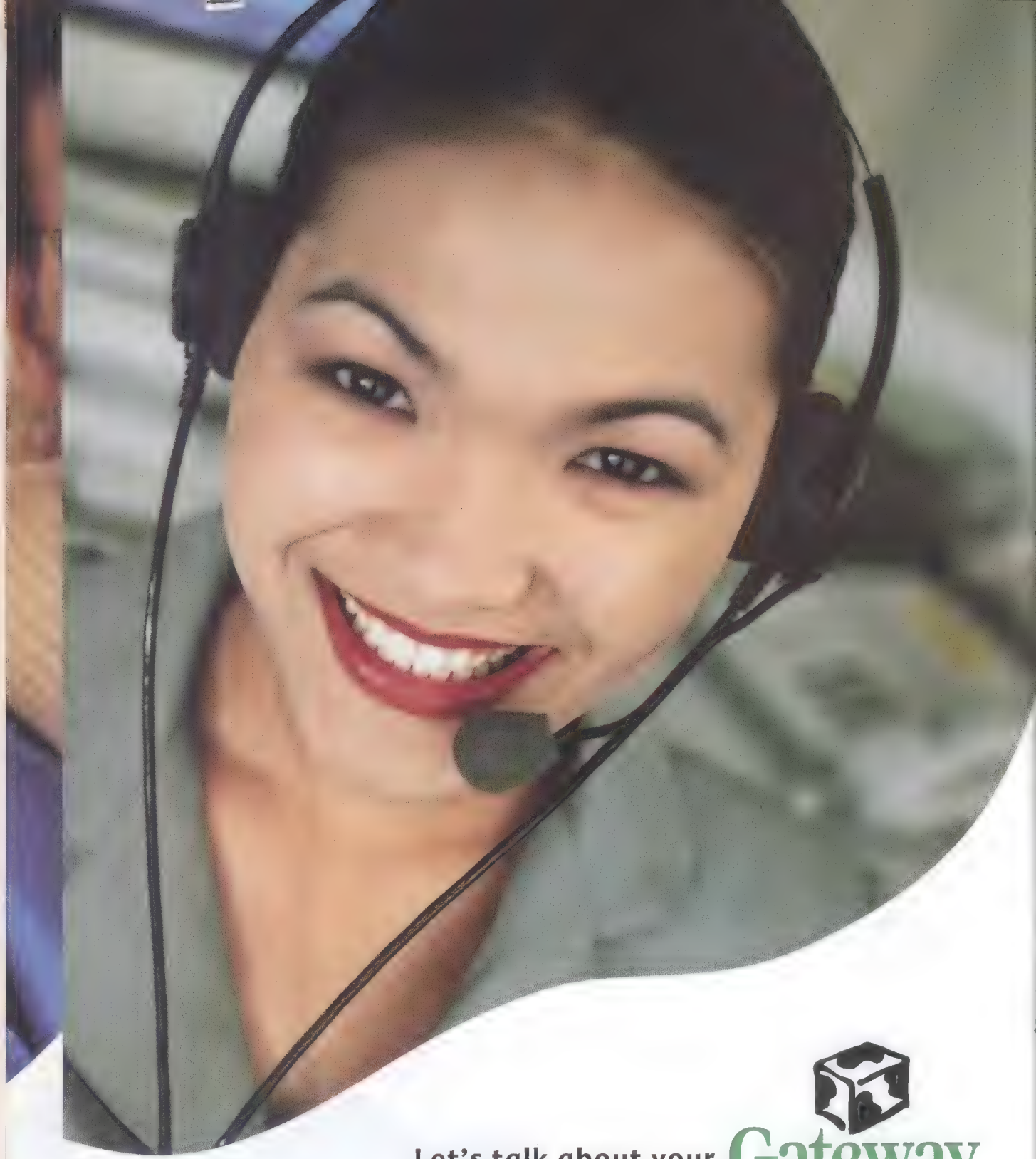

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It's about service being more than just a section in a manual.

People stay with Gateway™ PCs because helpful service is only a phone call away. At Gateway, we understand that our job doesn't end when you open the boxes of your new network-ready desktops, departmental servers and value-class portables. It's just the beginning of our relationship. Service and support are all part of the package. Contact us via fax, e-mail and our Website, or call toll-free 24 hours a day, 7 days a week as long as you own your systems. Considering all you get when you buy a Gateway system, perhaps that's why Gateway was named the **Best Computer Mail-Order Company** by July '98 *PC World's* **Top 20 Power Desktops List.**

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The Executive GP6-333C

- Intel® Celeron™ Processor 333MHz with 128K Cache
- 64MB SDRAM
- EV500 .28 Screen Pitch 15" Monitor (13.9" viewable)
- 4MB AGP Graphics Accelerator
- 6.4GB Ultra ATA Hard Drive
- 13X min/32X max CD-ROM Drive
- Iomega® Internal ZIP® Drive
- 3.5" Diskette Drive
- SoundBlaster® AudioPCI™ 64V
- Altec Lansing® GCS-100 Speakers
- Mid-Tower Case
- 10/100 Ethernet Network Card
- 104+ Keyboard & Mouse
- Microsoft® Windows® 98 & MS® Office 97, Small Business Edition plus Bookshelf® 98
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GoldValue Lease $43/mo. for 48 mos. or $1399**

The Director GP6-350

- Intel Pentium® II Processor 350MHz with 512K Cache
- 64MB SDRAM
- EV700 .28 Screen Pitch 17" Monitor (15.9" viewable)
- 8MB AGP Graphics Accelerator
- 10GB Ultra ATA Hard Drive
- 13X min/32X max CD-ROM Drive
- Iomega Internal ZIP Drive
- 3.5" Diskette Drive
- SoundBlaster AudioPCI 64V
- Altec Lansing GCS-100 Speakers
- Mid-Tower Case
- 10/100 Ethernet Network Card
- 104+ Keyboard & MS IntelliMouse®
- MS Windows 98 & MS Office 97, Small Business Edition plus Bookshelf 98
- Gateway Gold Service for GP-Series PCs*

GoldValue Lease $58/mo. for 48 mos. or $1899**

The Head Honcho GP6-450

- Intel Pentium II Processor 450MHz with 512K Cache
- 128MB SDRAM
- VX900 .26 Screen Pitch 19" Monitor (18" viewable)
- 8MB AGP Graphics Accelerator
- 16GB Ultra ATA Hard Drive
- 13X min/32X max CD-ROM Drive
- Iomega Internal ZIP Drive
- 3.5" Diskette Drive
- SoundBlaster AudioPCI 64V
- Altec Lansing GCS-100 Speakers
- Mid-Tower Case
- 10/100 Ethernet Network Card
- 104+ Keyboard & MS IntelliMouse
- MS Windows 98 & MS Office 97, Small Business Edition plus Bookshelf 98
- Gateway Gold Service for GP-Series PCs*

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- Web Page Creator Bundle (includes two titles) **$129**.
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It's about network manageability.

People stay with Gateway because whether a business needs to set up an entire network — or add to an existing one — our systems will be built to its specifications. This includes network-ready desktops and workgroup-class servers. Gateway™ PCs are network-ready right out of the box, configured to your requirements and can be upgraded and expanded as your needs change. It's no wonder the August '98 ***Small Business Computing*** ranked Gateway one of the top three technology vendors for small business. And with any of these Gateway systems, you'll have more help than you could ever use: 24-hour service and support online, on-call or by fax.

Your First Affordable Server ALR 7200 SBS 350

- Intel® Pentium® II Processor 350 MHz with 512K ECC Cache (expandable to 2 Processors)
- 128MB 100MHz ECC SDRAM
- 4GB Ultra 2 SCSI 7200 RPM Hard Drive
- 3.5" 1.44MB Diskette Drive
- 13X min/32X max IDE CD-ROM
- Integrated Intel 10/100 PCI Ethernet Adapter
- Six PCI and One PCI/ISA Slot
- Integrated 32-bit PCI Graphics with 2MB DRAM
- TelePath® Modem with x2™ Technology[3]
- Microsoft® BackOffice® Small Business Server
- PS/2 Compatible Mouse & Gateway Mouse Pad
- InforManager™ Server Management Software with ActiveCPR®
- 3 Year Parts, 1 Year On-site and 30-Day Network Operating System Support
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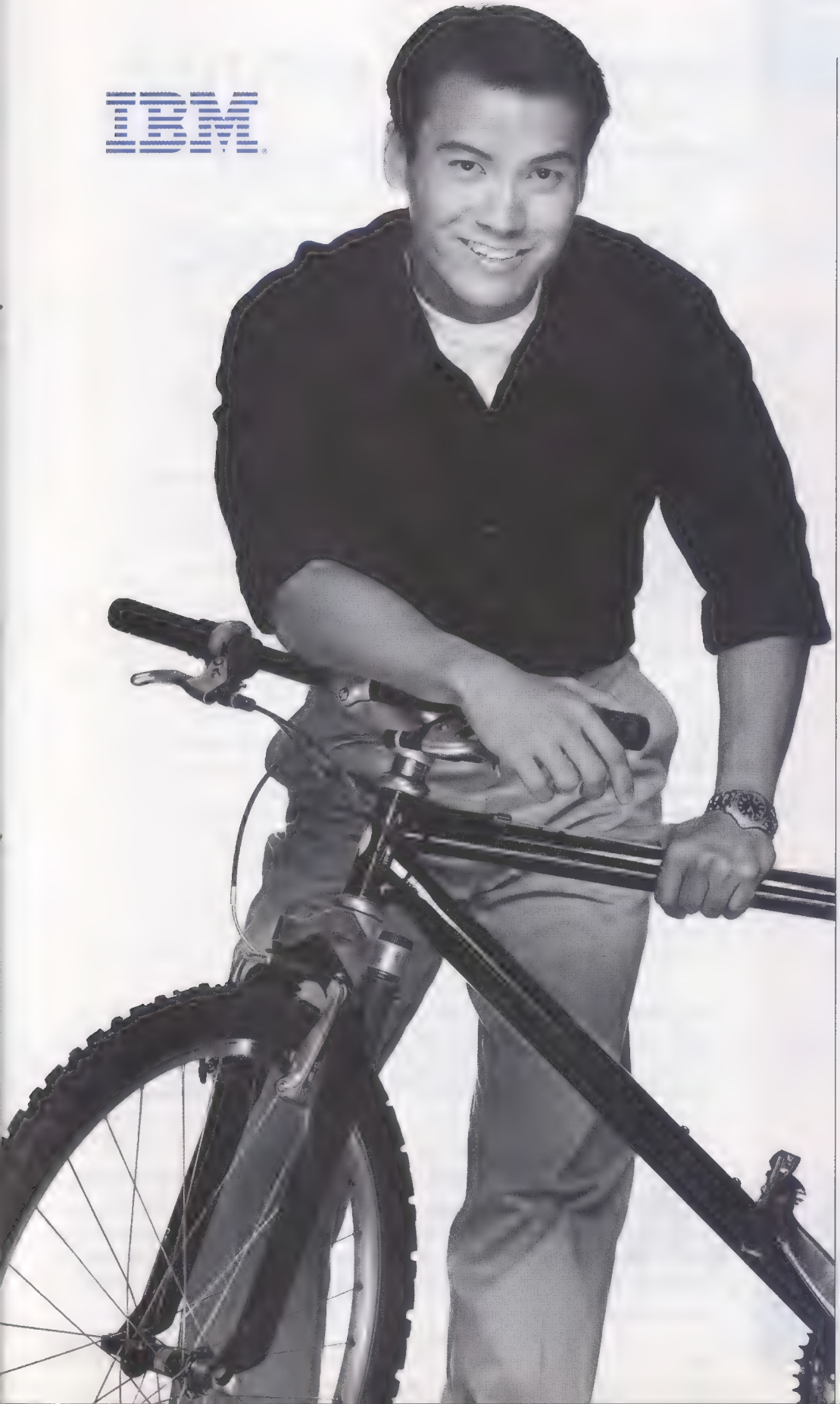

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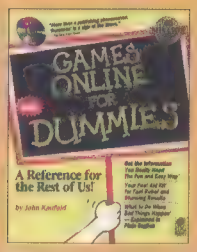

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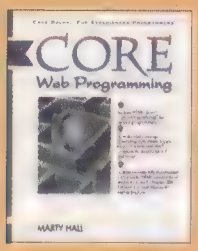

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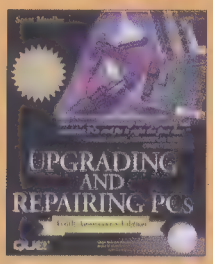

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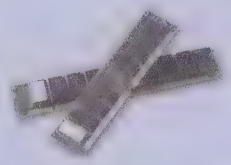

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SOFTWARE PIRACY

Stop, Thief!

Bravo, John C. Dvorak. It's high time someone spelled out what's really going on rather than fostering the nitwit mentality that Microsoft is what it is because it's better than everyone else ("Big Cheat," September, page 79). Microsoft is successful because it concentrates on plundering the market's intellectual property, not on developing better software. And unless it faces pressure, there's no incentive to change.

FRANK MENO, PH.D.
VIA THE INTERNET

Lemon Aid

Dvorak is right: We deserve a recall of Windows 95 ("Big Cheat," September). If Bill Gates believes my operating system is like a car, can I at least get some action under the local lemon laws?

JEREMIAH MCDONNELL
VIA THE INTERNET

John's a Red!

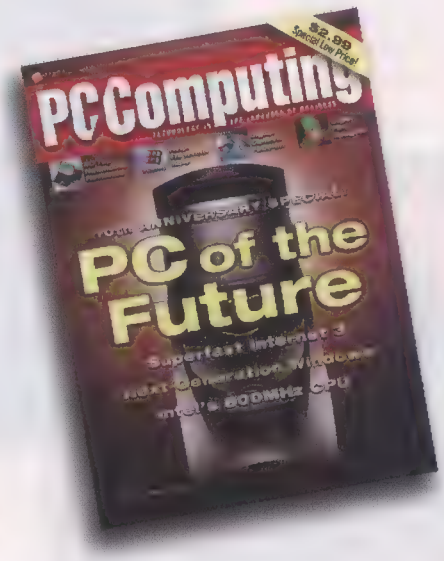
John C. Dvorak has proved that he can spell *monopolistic practice* ("Big Cheat," September), but he hasn't convinced me that he can precisely define the term. Just because a company is large and has dominant market share doesn't mean we should advocate the use of state-initiated violence. John is using worn-out socialist clichés to justify his position.

GERALD KING
VIA THE INTERNET

YOU HAVEN'T convinced me that you can precisely define the word *violence*. And remember: The workers control the means of production. Unite! **JCD**

Apathetic Like Me

Apathy. The reason Americans aren't doing anything about this Windows 98 rip-off is that they're unconcerned ("Big Cheat,"



September). If the masses really cared about it, they'd simply refuse to purchase any more Microsoft "upgrades."

R. SEAGER
VIA THE INTERNET

Power of the People

I completely disagree with Dvorak's statement that it may be time for the government to start regulating the computer industry to swat Microsoft ("Big Cheat," September). I'm no fan of Windows, and I think that Microsoft needs to be taken down a couple of notches—but not by the

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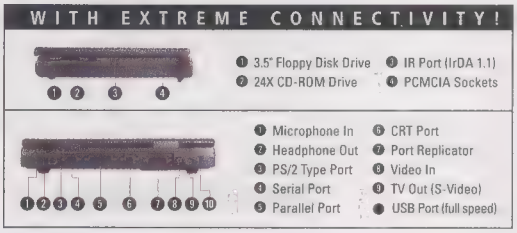

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government. Consumers need to evaluate all the options and choose the best product. That would do it.

TIM SCOFF
VIA THE INTERNET

Storm the Magazines!

Dvorak, you can't imagine how many millions of us out here agree 100 percent with the thoughts you lay out in "Big Cheat" (September). But what the hell can we do about it? Other Ziff-Davis magazines rave about how wonderful Microsoft products are and how they're better than XYZ's software. Your colleagues need to have their heads examined.

R. G. BATEMAN
VIA THE INTERNET

A LOT OF MICROSOFT software is excellent. I don't think that was my point, but thanks. **JCD**

The C Is for Canuck

Sheesh! I find myself agreeing with John C. Dvorak every time he writes a column, and "Big Cheat" (September) is no exception. Dvorak doesn't sound like your typical late–20th-century "profit is good, ethics be damned" American. Is he a Canadian?

TODD SAUVÉ
VIA THE INTERNET

I DO WATCH the CBC, if that makes a difference, eh? **JCD**

Dark Future

When a giant corporation like Microsoft takes over a market niche using clout and deep pockets, innovation and creativity suffer ("Big Cheat," September). Would Windows 95/98 have been released with all its problems if there had been a viable alternative? Microsoft has made no secret of its intent to dominate both PC and Internet software. Imagine a future when all our software functions as poorly as Windows 98.

RODNEY CORDELL
VIA THE INTERNET

Pretense of Piety

I was amused by Dvorak's "Big Cheat" column in the September issue. He says Microsoft should give away Windows 98 since it does little more than fix the 3,000 bugs in Windows 95. I wish Mr. Dvorak would do the same with his Offline Usenet Interface program, which was put out by his company Dvorak Development and Publishing Corporation. The program doesn't work properly, and he's never answered any of my e-mails. But one might expect that from a company that went under.

DON CARSON
VIA THE INTERNET

I NEVER RECEIVED any e-mails. And I'm sorry you didn't like the program. **JCD**

Money Down the Drain

I'm happy to finally see some honesty about the Microsoft OS BS ("Big Cheat," September). I'm a consultant. Since my client base has begun to switch to Windows 95 and NT, I've wasted countless billable hours troubleshooting the most mundane, stupid problems that should've been routine upgrades or installations. I like making money as much as the next guy, but I could be doing productive things instead of reloading Microsoft Office applications six times in a row. Fix the OS!

JOE COVELLO
VIA THE INTERNET

Bipartisan Publishing

In almost every issue of *PC Computing*, I see two conflicting viewpoints. The first: railings about the Department of Justice's interfering with the marketplace, coupled with spirited defenses of Microsoft, free enterprise, and the American way. And the second: bitter complaints about the Microsoft operating system. What do we think is going to happen when Microsoft has stomped WordPerfect and Netscape into oblivion? How responsive will the Redmond colossus be to instability and performance problems? How reasonable will prices be when Microsoft is the only provider?

RENE DELAUP
VIA THE INTERNET

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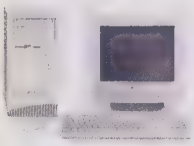

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Pyramid Scheme

Jesse Berst, show some pride, man ("Microsoft's Deadly Game," Radar, September, page 14). I was disturbed by your assessment of Microsoft's role in the tech industry and our lives in general. Although its actions may seem foolish at first, we must remember that America was built on the defiance of tyrants, which in this case happens to be the U.S. Government. Microsoft has a right to develop and market any product it sees fit. At the lowest level of the capitalist pyramid are we, the consumers.

CHRIS RAU
VIA THE INTERNET

Berst the Bubble

Jesse Berst's blast at Microsoft is way off base ("Microsoft's Deadly Game," Radar, September). Microsoft isn't guilty of wasting the taxpayer's dollar by defending itself any more than other defendants. It's the government's misapplication of antiquated laws to a global marketplace that's wasteful. I've searched for signs of endangerment in the computer industry, and I've looked for the "pall across the entire tech sector," but I've yet to see the sky falling as Mr. Berst asserts. And as for Wall Street prices responding to perceived good or bad news: Please! If Microsoft is playing chicken, then Mr. Berst is playing Chicken Little.

JAY WARD
VIA THE INTERNET

WALL STREET has already punished or rewarded Microsoft's share price several times on news of trial developments. **JB**

Get Real

I don't think I've ever read anything as narrow-minded as "Microsoft's Deadly Game" in September's Radar. The entire computer industry is endangered by Microsoft's legal problems? That's nonsense. Microsoft does not control the entire computer industry. There are alternative operating systems out there.

PAUL BURGESS
VIA THE INTERNET

AT LEAST 100 MILLION people rely on Windows. I'm sure they and their companies wouldn't mind a bit throwing all their training and apps away and starting over from scratch with an "alternative operating system." Since you're so broad-minded, I'll have them all call you for technical support. **JB**

Free Music

Don Steinberg writes that Saehan's 64MB MPMan can hold only one album's worth of music (Radar Blips, September, page 16). This is only partially correct. Using the highest-quality 44kHz recording scheme—the mode Steinberg is no doubt familiar with—such a player can hold 16 average-length songs. But using the radio-quality 22kHz scheme, Saehan's MP3 player can hold 64 songs.

JOHN SILVIA
VIA THE INTERNET

Hackers vs. Crackers

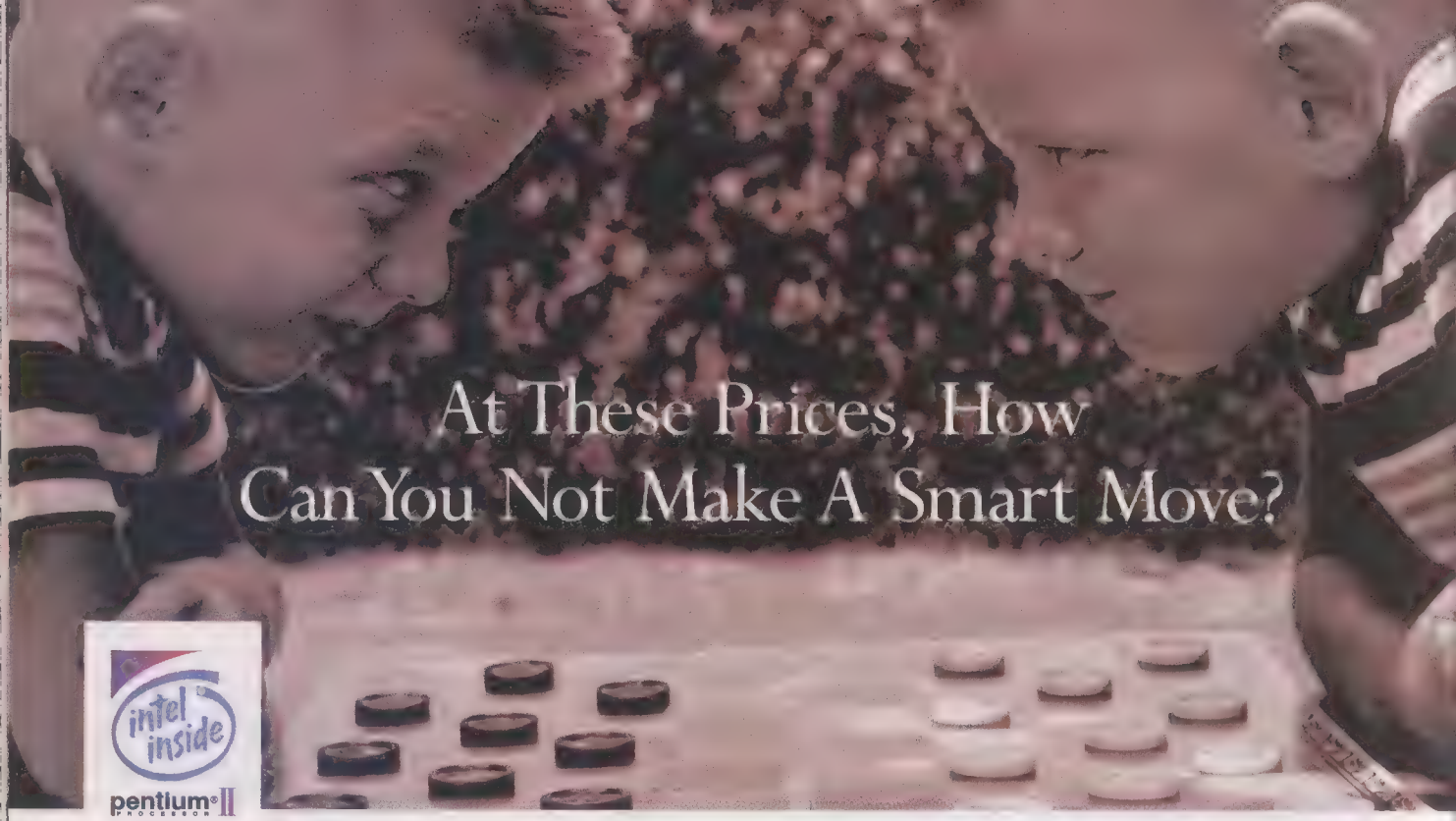
As I glanced at September's I-Poll (page 304), I was amazed that Leslie Ayers, along with most of the uninformed public, believes that hackers are the ones who steal and spread viruses. The hacker community would never knowingly damage either a system or the information contained within it. A hacker does what he does for the sake of knowledge. A cracker, on the other hand, wants only to foster digital mayhem. Crackers are the ones who spread viruses, steal information and money, and perform other malicious acts.

ICE BREAKER
VIA THE INTERNET

Linux Mob

Once again Paul Somerson ("Wise Guys," September, page 75) talks all around the issue without mentioning the solution—Linux. If he'd switch to Linux, "Overnight there'd be no more DLL problems, file management heartache, hardware installation hassles, crashes . . . ." The Mafia need not get involved. True, Linux still has usability improvements to make, but at least it's not getting worse like the Microsoft OS.

BRYCE HARRINGTON
VIA THE INTERNET



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Crash Protection

There's one way to spur Microsoft into instant no-crash software design: Bill Gates must be forced to drive a car that shuts down, without warning, once a day. How long do you suppose it would take for the desired result to occur?

GREG MACDONALD
VIA AMERICA ONLINE

PostScript Lives

In your tenth anniversary issue's "Best and Worst of the Decade" (September, page 163), you list PostScript as one of the "things we've gladly seen come and go." Whoever wrote this is out of touch. PostScript is alive and well, and it continues to be the control language of choice for high-end production printers as well as a supported emulation for many office laser printers. Unless the "RIP" in your column heading referred to Raster Image Processors, PostScript doesn't belong on the list.

JOHN ALLEN
VIA THE INTERNET

Bloated New World

In "Windows 2008" (from "PC of the Future—Today," September, page 175), Ed Bott predicts that "With a gigabyte (or more) of available RAM . . . the entire OS should fit in a ROM chip . . . ." While I don't doubt that we'll have gigs upon gigs of RAM, the OS will surely grow to fit the available space. All of DOS used to fit on a single low-density floppy, with room to spare for programs. Now the hard drive I had five years ago would barely accommodate Windows 98.

EVAN MOSES
VIA THE INTERNET

Dream Machines

I read September's tenth anniversary feature "PC of the Future—Today" with interest. But I was somewhat dismayed to see undeserved praise of Intel in the "Merced" section. Yes, Intel makes some fine products. But the Pentium II isn't one of them. The processor is overly expensive when compared to AMD's K6, which is superior to a Pentium II with a similar megahertz rating. I'm not dreaming about life in the fast lane with Intel's next big chip; I'm dreaming about the upcoming AMD K7.

CHARLEY MCGEE
VIA THE INTERNET

Chip Performance Dip

Marty Jerome's September article on the future of Intel's upcoming chip is confusing ("PC of the Future—Today," page 172). In the Bottom Line box he states that the Merced chip has "full backward-compatibility and no performance hit when running *x*86 apps." However, the facing page reads: "Merced will virtually come with two instruction sets, 64-bit and 32-bit. While native 64-bit apps will run at 800MHz, expect *x*86 apps to move at the equivalent of a 500MHz Pentium II." That's not a performance hit?

BRETT MCCOY
VIA THE INTERNET

I DON'T KNOW how fast the PC on your desk runs Windows 98. But 500MHz is a lot faster than my PC can run it. **MJ**

Letter Bombing

I'm writing in response to Peter G. Overduijn's letter in the September issue (Mail, page 43). Pete, you have no idea what you're talking about! I'll concede that Microsoft isn't a monopoly—yet. Just look at John C. Dvorak's "Big Cheat" in the same issue (page 79). He says internal Microsoft memos prove that they "bundled [Internet] Explorer to screw over Netscape." As for your comment, "Mac's OS, IBM's OS/2, Linux, Unix, and other operating systems are readily available," if that's true, why can't I choose which OS is preinstalled on a new PC? To say that these OSs are inferior to Windows is flat-out preposterous.

FELIX E. SUNG
VIA THE INTERNET

Paper Clip Assassins

After reading Douglas Craday's letter in the September issue about using Regedit to get rid of "That Damn Paper Clip" (Mail, page 46), I had to write. It's easier to delete

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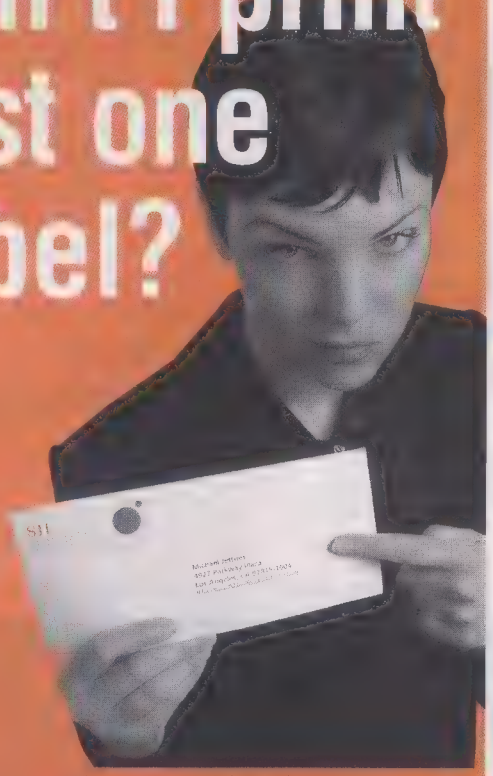
Infolink 155 at: www.pccomputing.com/infolink

I'm sending one letter, can't I print just one label?



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Available at COMPUSA Fry's OfficeMax

Infolink 116 at: www.pccomputing.com/infolink

the Actors folder. After it's gone, the old Help screen appears. I've never received an error message, and it's much safer than using Regedit. Any upgrades inevitably add the Actors folder back, but you just have to delete it again.

NORMA LEE
VIA AMERICA ONLINE

AMAZING WHAT LENGTHS people will go to in their pursuit of paper clip genocide. Your \Actors folder is probably in the C:\Program Files\MicrosoftOffice\Office folder. If not, look for *.act and *.acp files. Nuke the folder and kiss Clipit goodbye. (Note to Office 2000 users: Your actors are in *.acg and *.acs files, which are interspersed with all the other Office files, and it's much safer to use the method mentioned in my response below.) **WL**

More Paper Clip Kryptonite

There are easy ways to assassinate the paper clip without editing the Registry. The first: Don't install it. Do a custom install of Office 97, and uncheck the Office Assistant. The second: Uninstall it. Run Office 97 Setup, choose Add/Remove, and uncheck the Office Assistant. The third: From an Office app choose Tools, Customize, Commands, and drag the question mark icon from the toolbar into the Commands section. Doesn't anybody read the manual?

GEOFFREY W. KUFCHAK
VIA THE INTERNET

MANUAL? WHAT MANUAL? The first two suggestions are the cleanest ways to send Mr. Clipit into the bit bucket. Alas, the third won't work—it'll get rid of the Assistant for a while, but as soon as you trigger Office's Assistant autoresponse (hint: type Dear Mom: and hit Enter in a Word document), the bugger comes back. Better to uninstall—or do as I do, and never install it in the first place. **WL**

Microsoft Defector?

Here's a crazy Word trick that was apparently devised by some disgruntled Microsoft employee. Type *I'd like to see Bill Gates Dead* in Word. Highlight the sentence, then consult the program's thesaurus. The result is hysterical.

SCOTT LACHUT
VIA THE INTERNET

THESE ARE ALL ACCIDENTAL hits, caused by the way the search engine returns the next best match. And the search engine, the grammar checker, and the databases weren't made by Microsoft; it only licenses them. No Easter egg or hidden code bomb involved. Also try the thesaurus check with *love her and leave her.* **WL**

WHAT CAN WE DO ABOUT THE MICROSOFT MONOPOLY? Send your thoughts about this and other subjects to Mail, *PC Computing*, 50 Beale St., 13th Floor, San Francisco, CA 94105; or via the Internet, PCCmail@zd.com. Letters may be edited for length and clarity.

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NEW DELL DIMENSION XPS R450
PENTIUM® II PROCESSOR AT 450MHz

- 128MB 100MHz SDRAM
- 512KB Integrated L2 Cache
- 16.8GB Ultra ATA Hard Drive
- 1600HS 21" (19.8" viewable, .26dp) Trinitron® Monitor
- *NEW* 16MB STB nVidia TNT 3D AGP Graphics Card
- *NEW* 4.8X DVD-ROM Drive and Decoder Card
- Turtle Beach Montego A3D Sound Card
- ACS-295 Speakers with Subwoofer
- *NEW* 3Com® USR V.90π PCI WinModem
- 30-Day ConnectDirect Internet Service
- MS IntelliMouse®

$3379

Business Lease◊: $128/Mo., 36 Mos.
Order Code #591001

NEW DELL DIMENSION XPS R450
PENTIUM II PROCESSOR AT 450MHz

- 128MB 100MHz SDRAM
- 512KB Integrated L2 Cache
- 16.8GB Ultra ATA Hard Drive
- 1200HS 19" (17.9" viewable, .26dp) Monitor
- ATI XPERT 98D 8MB 3D AGP Graphics Card
- *NEW* 4.8X DVD-ROM Drive
- Turtle Beach Montego A3D Sound Card
- *NEW* harman/kardon HK-195 Speakers
- 3Com 3C905B 10/100 NIC
- Iomega Zip 100MB Internal Drive with One Cartridge
- MS IntelliMouse

$2799

Business Lease◊: $106/Mo., 36 Mos.
Order Code #591005

NEW DELL DIMENSION XPS R450
PENTIUM II PROCESSOR AT 450MHz

- 128MB 100MHz SDRAM
- 512KB Integrated L2 Cache
- *NEW* 13.6GB Ultra ATA Hard Drive
- 1000HS 17" (16.0" viewable, .26dp) Trinitron Monitor
- *NEW* 16MB STB nVidia TNT 3D AGP Graphics Card
- 40X Max≈ Variable CD-ROM Drive
- Crystal 3D 64V Wavetable Sound
- *NEW* harman/kardon HK-195 Speakers
- 3Com 3C905B 10/100 NIC
- MS IntelliMouse

★ *Upgrade to a 16.8GB Ultra ATA Hard Drive, add $149.*

$2479

Business Lease◊: $94/Mo., 36 Mos.
Order Code #591006

DELL DIMENSION XPS R400
PENTIUM II PROCESSOR AT 400MHz

- 96MB 100MHz SDRAM
- 512KB Integrated L2 Cache
- 10GB Ultra ATA Hard Drive
- 1000LS 17" (15.9" viewable) Monitor
- STB nVidia ZX 8MB 3D AGP Graphics Card
- 40X Max≈ Variable CD-ROM Drive
- Crystal 3D 64V Wavetable Sound
- *NEW* harman/kardon HK-195 Speakers
- MS IntelliMouse

★ *Upgrade to 128MB 100MHz SDRAM, add $60.*

$1999

Business Lease◊: $76/Mo., 36 Mos.
Order Code #591003

SOME DAYS YOU WIN, AND

DELL INSPIRON NOTEBOOKS

Common features for Inspiron 7000: ◆ ESS 3D Surround and Hardware Wavetable ◆ Intelligent Lithium Ion Battery ◆ MS Office 97 Small Business Edition v2.0 ◆ MS Windows 98 ◆ Touchpad ◆ 3-Year Limited Warranty† **Common features for Inspiron 3200:** ◆ Modular 3.5" Floppy Disk Drive ◆ NeoMagic 128-bit Graphics Accelerator ◆ Stereo Speakers with 3D Surround Sound and Software Wavetable ◆ Intelligent Lithium Ion Battery ◆ MS Office 97 Small Business Edition v2.0 ◆ MS Windows 98 ◆ Touchpad ◆ Extendable 1-Year Limited Warranty† **Upgrade:** ◆ Black Viewsonic EA771B Monitor, Keyboard and Mouse, add $459

NEW DELL INSPIRON 7000 D300LT
PENTIUM II PROCESSOR AT 300MHz

- 15" XGA Active Matrix TFT Display
- 128MB SDRAM
- *NEW* 8GB Ultra ATA Hard Drive
- Removable Combo 2X DVD-ROM Drive and 3.5" Floppy Disk Drive
- *NEW* 2X AGP 8MB ATI Rage Pro 3D Video
- Deluxe Nylon Case
- Internal 56K Capableπ Data/Fax Modem

★ *Second Intelligent Lithium Ion Battery, add $129.*

★ *Upgrade to the 56K Capableπ Gold Card Global Modem, add $80.*

$3899

Business Lease◊: $148/Mo., 36 Mos.
Order Code #891001

NEW DELL INSPIRON 7000 D300GT
PENTIUM II PROCESSOR AT 300MHz

- 14.1" XGA Active Matrix TFT Display
- 64MB SDRAM
- 4GB Ultra ATA Hard Drive
- Removable Combo 24X Max^^ Variable CD-ROM and 3.5" Floppy Disk Drive
- *NEW* 2X AGP 8MB ATI Rage Pro 3D Video
- Deluxe Nylon Case
- Internal 56K Capableπ Data/Fax Modem

★ *Upgrade to 128MB SDRAM, add $199.*

★ *Upgrade to a 6.4GB Ultra ATA Hard Drive, add $199.*

$2999

Business Lease◊: $114/Mo., 36 Mos.
Order Code #891003

DELL INSPIRON 3200 D266XT
PENTIUM II PROCESSOR AT 266MHz

- 13.3" XGA Active Matrix TFT Display
- 64MB SDRAM
- 4GB Ultra ATA Hard Drive
- Modular 24X Max^^ Variable CD-ROM
- 56K Capableπ x2 Modem
- Iomega Zip 100MB Internal Drive

★ *Second Intelligent Lithium Ion Battery, add $99.*

★ *Deluxe Nylon Case, add $49.*

★ *Inspiron 3200 Port Replicator, add $139.*

★ *Upgrade to MS Office 97 Professional, add $199.*

$2699

Business Lease◊: $102/Mo., 36 Mos.
Order Code #891005

DELL INSPIRON 3200 D233ST
PENTIUM II PROCESSOR AT 233MHz

- 12.1" SVGA Active Matrix TFT Display
- 32MB SDRAM
- 3.2GB Ultra ATA Hard Drive
- Modular 24X Max^^ Variable CD-ROM

★ *Upgrade to 64MB SDRAM, add $99.*

★ *Upgrade to a 4GB Ultra ATA Hard Drive, add $49.*

★ *56K Capableπ Gold Card Global Modem, add $139.*

★ *Iomega Zip 100MB Internal Drive, add $199.*

★ *3Com 10/100 Fast Ethernet Adapter, add $129.*

$1999

Business Lease◊: $76/Mo., 36 Mos.
Order Code #891007

For faster service, please have your order code and keycode available when calling.

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intel inside pentium® II PROCESSOR

Publisher 98, Outlook 98, Small Business Financial Manager 98, Direct Mail Manager
Phone Support

NEW DELL DIMENSION V350
PENTIUM II PROCESSOR AT 350MHz

- 64MB 100MHz SDRAM
- 512KB Integrated L2 Cache
- 6.4GB Ultra ATA Hard Drive
- 1000LS 17" (15.9" viewable) Monitor
- ATI 8MB 3D AGP Graphics
- 32X Max^ Variable CD-ROM Drive
- Yamaha XG 64V Wavetable Sound
- *NEW* harman/kardon HK-195 Speakers
- *NEW* 3Com USR V.90π PCI WinModem
- 30-Day ConnectDirect Internet Service
- *NEW* Logitech First Mouse+ (PS/2v)

★ *Upgrade to 96MB 100MHz SDRAM, add $89.*

$1799

Business Lease◊: $68/Mo., 36 Mos.
Order Code #591007

NEW DELL DIMENSION V333c
INTEL® CELERON™ PROCESSOR AT 333MHz

NETWORK DESIGNED DESKTOP:

- 32MB SDRAM
- 128KB Integrated L2 Cache
- 6.4GB Ultra ATA Hard Drive
- 800F 15" (13.7" viewable) Monitor
- ATI 8MB 3D AGP Graphics
- 32X Max^ Variable CD-ROM Drive
- Integrated Intel 10/100 Ethernet Controller
- *NEW* Logitech First Mouse+ (PS/2v)

★ *Upgrade to 64MB SDRAM, add $69.*
★ *Upgrade to a 10GB Ultra ATA Hard Drive, add $79.*

$1399

Business Lease◊: $53/Mo., 36 Mos.
Order Code #591004

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- NEC SuperScript 870 Laser Printer, add $359.
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- APC Back-UPS Office, add $99.
- Iomega Zip 100MB Internal Drive with Two Cartridges, add $99.
- 3Com 3C905B 10/100 NIC, add $50.
- *NEW* 3Com USRobotics V.90π PCI WinModem, add $49.
- 3Com USRobotics V.90π Modem, add $105.
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(DUAL PROCESSOR/RAID CAPABLE)

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- 1200HS 19" (17.9" viewable) Monitor
- Diamond 8MB AGP Video Card
- 32X Max^ Variable CD-ROM Drive
- Sound Blaster Pro Compatible Sound
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- Remote Client Manageability Support via DMI 2.0; Wakeup on LAN Capable
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- 7x24 Workstation Hardware Technical Telephone and Online Support

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PENTIUM II PROCESSOR AT 400MHz

(DUAL PROCESSOR/RAID CAPABLE)

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- 9GB Ultra-2/LVD SCSI Hard Drive (Hot-Swap Optional)
- Microsoft® Windows NT Server 4.0
- APC Smart-UPS 700W Power Supply
- Intel Pro/100B PCI Ethernet Adapter
- 6 Expansion Slots: 4 PCI, 2 PCI/ISA
- Internal Hard Drive Bays to Support 4-1.6" or 6-1" Drives
- 3-Year NBD On-site^Δ Service

★ *Upgrade to a Pentium II Processor at 450MHz, add $300.*

$4479

Business Lease◊: $165/Mo., 36 Mos.
Order Code #251005

DELL POWEREDGE 2300 SERVER
PENTIUM II PROCESSOR AT 350MHz

(DUAL PROCESSOR/RAID CAPABLE)

- 64MB 100MHz ECC SDRAM
- 4GB Ultra-2/LVD SCSI Hard Drive (Hot-Swap Optional)
- Intel Pro/100B PCI Ethernet Adapter
- 6 Expansion Slots: 4 PCI, 2 PCI/ISA
- Internal Hard Drive Bays to Support 4-1.6" or 6-1" Drives
- 3-Year NBD On-site^Δ Service

★ *Upgrade to 128MB 100MHz ECC SDRAM, add $189.*
★ *12/24GB Variable SCSI DAT Tape Backup Unit, add $849.*

$2549

Business Lease◊: $97/Mo., 36 Mos.
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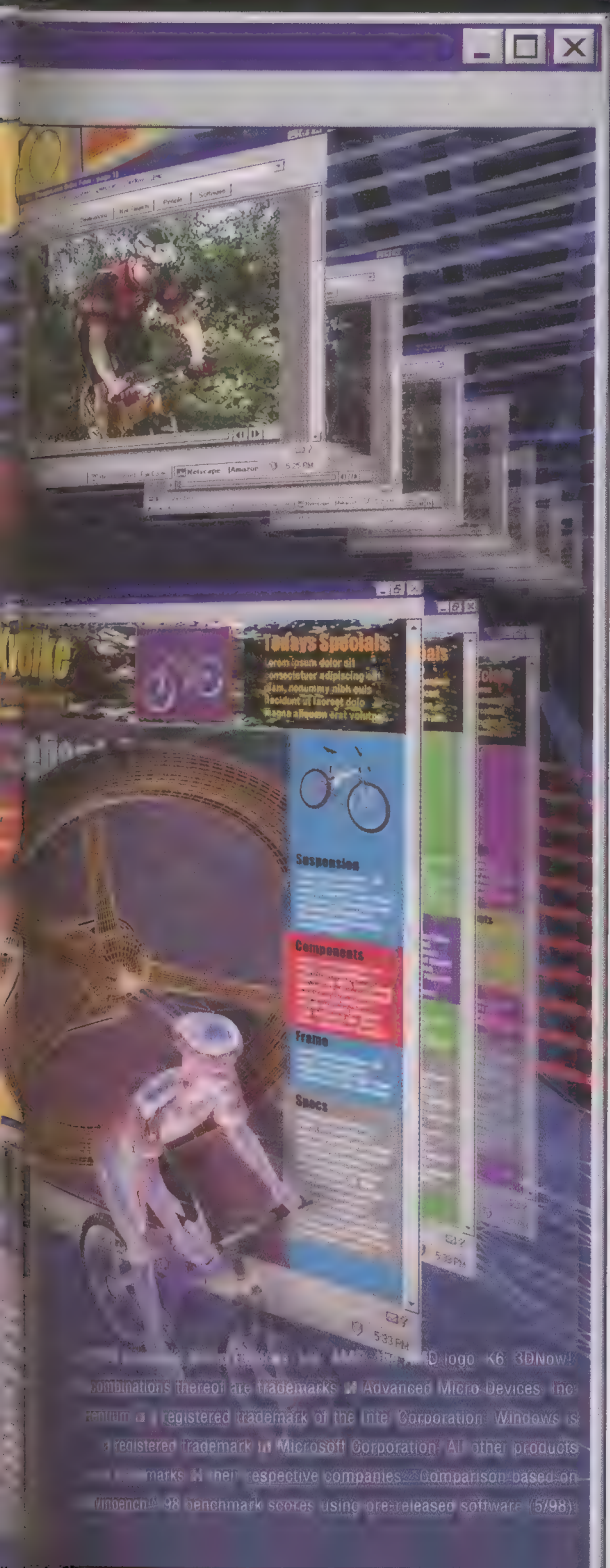

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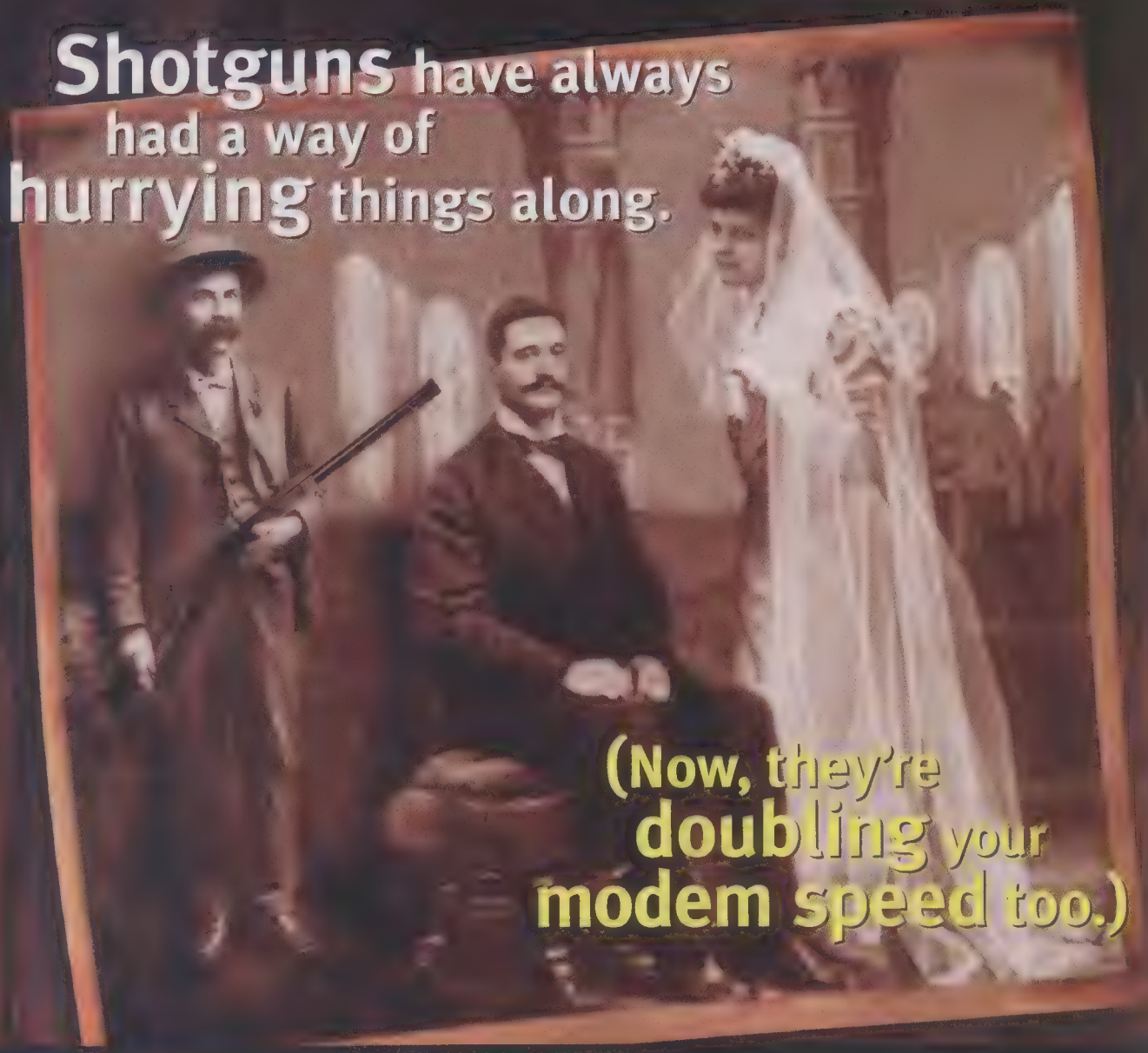

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Feeling the pressure to move faster in today's world? Try the SupraSonic II with Shotgun Technology—the innovative new modem that delivers Internet access up to 112K. Diamond's exclusive Shotgun technology delivers a double barrel of bandwidth by combining two 56K modems on a single board. So you can get the fastest dial-up speeds available using two ordinary phone lines. Plus, the SupraSonic II includes intelligent software that maintains a reliable connection even while releasing your second phone line for incoming calls or faxes. Diamond has integrated the V.90 standard and Rockwell K56flex technology for superior compatibility and performance. And now Shotgun 112K Technology is supported nationwide by leading Internet providers in over 2,000 cities, including popular ISPs like NetCom. So look for the Shotgun logo when buying a modem, and start getting speeds up to 112K today.

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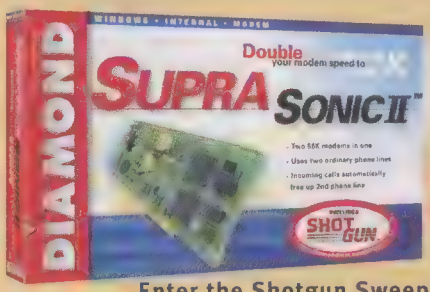

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A-List

Editors' top picks in 100 hardware, software, and Internet categories. **Edited by Wendy Taylor and Kyla K. Carlson**

DESKTOP SYSTEMS

Chips Are Cheap And so are PCs, thanks to cutthroat pricing. Watch for silicon upstarts like Rise Technologies to push prices even lower.

Top Pick	The Buzz	The Stats*
State-of-the-Art PC Gateway G6-450	There are faster and cheaper PII 450s, but Gateway's includes a CD-RW and a DVD drive. Custom audio CDs, anyone?	$2,917, 450MHz Pentium II, 64MB SDRAM, DVD, CD-RW, 19-inch monitor. (800) 846-2000. See Oct. 1998, page 95.
High-Performance PC Dell Dimension XPS R400	A steal at under $3,000—DVD and 56K modem included.	$2,999, 400MHz Pentium II, 64MB RAM, 14.4GB hard drive, 56Kbps modem, DVD. (800) 388-8542. See Aug. 1998, page 168.
Desktop Workhorse NEC Computer Systems SP E300	A great deal for neck-snapping performance—at a price you can afford!	$1,877, 300MHz Pentium II, 64MB RAM, 6.4GB hard drive, DVD, 17-inch monitor. (888) 863-2669. See Feb. 1998, page 188.
Low-Cost Desktop PC CompUSA PC American A233	It's an outrage: Get a loaded 233MHz Pentium II for under a grand.	$999, 233MHz Pentium II, 32MB SDRAM, 32X CD-ROM drive, 56Kbps fax modem. (800) 226-6772. See May 1998, page 204.
SOHO System Gateway G6-300	Buy a 300MHz Pentium II screamer with DVD—and get a Canon color printer thrown in for free.	$1,568, 300MHz Pentium II, 32MB RAM, 5GB hard drive, DVD, 17-inch monitor, color printer. (800) 846-2000. Stay tuned.
Pricewise Direct System Quantex QP6/450 SM-4x SE	The fastest 450MHz system out of the gate is also the most affordable. We'll take it!	$2,799, 450MHz Pentium II, 64MB SDRAM, 14.4GB hard drive, DVD, 19-inch monitor. (800) 787-8686. See Oct. 1998, page 95.

SERVERS

Payback Still running your network on a 90MHz Pentium? Consider this: A server installed on New Year's Day will pay for itself by the Fourth of July.

Top Pick	The Buzz	The Stats*
High-Performance Web Server Micron Electronics NetFrame 3100	Why make them wait? Give your Web customers what they want before they click away.	$8,899, two 400MHz Pentium II CPUs, 512MB RAM, six 4.55GB drives. (888) 634-8799. Stay tuned.
Small Workgroup Server Compaq ProLiant 1600	A glutton for punishment. As the network load increases, its stunning performance gets even faster.	$12,686, two 400MHz Pentium II CPUs, 512MB RAM, six 4.3GB drives. (800) 354-1578. Stay tuned.
Large Workgroup Server Dell PowerEdge 6300	Give everyone in the office a perk with Dell's quad-CPU Xeon powerhouse. Usability and reliability are top-notch too.	$31,862 direct, four 400MHz Xeon CPUs, 1GB RAM, six 9GB hard drives. (800) 388-8542. See this issue, page 90.

PORTABLE SYSTEMS

Have It All The trade-offs of using a notebook are shrinking: Get a 300MHz portable Pentium II for only a few hundred dollars more than a desktop PC.

Top Pick	The Buzz	The Stats*
State-of-the-Art Portable NEC Versa SX	As good as it gets in a full-featured portable.	$3,699, 300MHz Pentium II, 64MB RAM, 4GB hard drive. (888) 863-2669. See Oct. 1998, page 86.
Traveling Multimedia Portable IBM ThinkPad 600	The most convenient way to take 266MHz Pentium II power on the road. Even with a 13-inch screen, it's still under 6 pounds.	$3,599, 266MHz Pentium II, 32MB RAM, 4GB hard drive. (800) 426-7255. See Sept. 1998, page 196.
Workhorse Portable Dell Latitude CPi D266XT	Great dollar value in Dell's torture-tested design.	$3,099, 266MHz Pentium II, 64MB RAM, 4GB hard drive. (800) 388-8542. See Sept. 1998, page 184.

*ESTIMATED STREET PRICE UNLESS NOTED OTHERWISE.

 continued from page 59

PORTABLE SYSTEMS continued

Top Pick	The Buzz	The Stats*
Lightweight Traveling Companion Sony Electronics VAIO 505G	The first sub-3-pound portable you can actually use. Watch for an even better version by year's end.	$1,999, 200MHz Pentium, 32MB SDRAM, 2.1GB hard drive. (888) 315-7669. See Aug. 1998, page 87.
Handheld Portable 3Com Palm III	So it doesn't do color and the handwriting recognition is a little odd—it's still the most usable handheld PC you'll find.	$399 list price, 2MB RAM, backlit display, 5.7 ounces. (800) 881-7256. See June 1998, page 61.

PRINTERS

Digital Snapshots Forget your local Fotomat. Print your own digital pictures in seconds with Hewlett-Packard's PhotoSmart photo printer.

Top Pick	The Buzz	The Stats*
Low-Cost Desktop Laser Printer NEC Technologies SuperScript 870	The best gets better. The new SuperScript 870 sports a sleek new design and much-improved paper handling.	$349, 600 dpi, 8 ppm, handles up to 500 sheets of paper. (800) 632-4636. See Oct. 1998, page 108.
High-Speed Desktop Laser Printer NEC Technologies SuperScript 1260	Cut the office wait around the printer queue and boost productivity in the bargain. Offices should have at least two.	$699, 12 ppm, 600 dpi, network option. (800) 632-4636. Stay tuned.
High-Speed Network Laser Printer Xerox DocuPrint N32	Serves up excellent paper handling and blazing-fast speeds. For killer graphics output, check out HP's LaserJet 8000.	$2,900, 32 ppm, 600 dpi, Ethernet adapter. (800) 349-3769. See Oct. 1998, page 98.
Multifunction Device Canon Computer Systems MultiPass L6000	Get crisp laser output. Get 6-ppm print speeds. Get a scanner, copier, and fax in one. And get it all for less than $600.	$599, 600 dpi, 6-ppm laser engine. (800) 652-2666. See Sept. 1998, page 237.
Desktop Color Printer Epson Stylus Color 850	Stunning 1,440-by-720 dpi output that's worth the wait. Use coated paper and you'll swear the photos are from a darkroom.	$349, 1,440-by-720 dpi. (800) 463-7766. See Sept. 1998, page 100.
Low-Cost Network Color Printer Hewlett-Packard DeskJet 1600CM	The least expensive way to give everyone on the network ink-jet color output. It's fast too.	$1,999, ink jet, 4-ppm color, 9-ppm black. (800) 752-0900. See Jan. 1998, page 162.
High-Speed Network Color Printer Lexmark Optra SC 1275n	Breaks all the rules about color laser printers: It's fast, it's high-res—and it doesn't cost a fortune.	$3,499, 1,200 dpi, 3-ppm color, 12-ppm black, printer management software. (800) 539-6275. See June 1998, page 218.
Personal Photo Printer Hewlett-Packard PhotoSmart	Who knew that photos from your PC could look this good on paper? Another surprise: This printer's affordable.	$299, color ink jet. (888) 474-3867. See this issue, page 240.

STORAGE

The Art of Storage Zen Research has teamed up with Hi-Val to create the TrueX 40x40 CD-ROM drive. For just $199, it spins discs at 40X.

Top Pick	The Buzz	The Stats*
Hard Drive IBM Deskstar 14GXP	Never run out of disk space again. This grandma's attic of storage devices is faster than comparable SCSI drives, too.	$549, 14.4GB Ultra ATA-4, 9.5ms average seek time, 5 cents per megabyte. (800) 426-7777. See July 1998, page 175.
Removable Storage SyQuest SparQ 1.0GB	Iomega's Jaz has a two-year head start, but SyQuest's SparQ is faster and cheaper.	$199, $39 for disks, 1GB EIDE, 12ms seek time. (800) 245-7334. See July 1998, page 189.
CD-ROM Drive Hi-Val TrueX 40x40 CD-ROM	Zen Research and Hi-Val have a 40X CD-ROM drive. Can transfer rates of 6MBps be for real? Is anything real?	$199 for internal EIDE/ATAPI drive, 40X read. (714) 953-3000. Stay tuned.

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STORAGE continued

Top Pick	The Buzz	The Stats*
CD-Rewritable Drive Smart and Friendly CD Rocket	Go where no CD-R has gone before: 20X read, 8X write. Buy it now, and design custom audio CDs by Christmas.	$999 list price, internal SCSI drive, 20X read, 8X write. (800) 959-7001. Stay tuned.
Network Storage Seagate Technology Barracuda 18	The best drive ever? The 1970 Plymouth Barracuda. The best network storage drive ever? The Seagate Barracuda 18.	$1,149, 18GB, 100MBps peak transfer rate. (800) 732-4283. See Mar. 1998, page 176.

PERIPHERALS

Just Say Scan Info Peripherals' ImageReader Ultra Pro scanner lets you control up to ten of its functions with your voice (www.infoperipherals.com).

Top Pick	The Buzz	The Stats*
Personal Document Scanner Agfa SnapScan EZ	Make instant copies, put your filing cabinet on a CD, tame your paper in-box, and do it all with the push of a button.	$129, 600 by 1,200 dpi. (888) 281-2302. See this issue, page 230.
Graphics Scanner Epson Expression 636 Artist 2	Graphics experts have nothing on you, thanks to the Expression and its tools. They'll be drooling over *your* scans.	$699, 600 by 1,200 dpi, 36-bit color. (800) 463-7766. See this issue, page 230.
Digital Camera Eastman Kodak DC260	You can have it all in a digital camera: gorgeous pictures, a 3X optical zoom, and a fast USB port for connecting to your PC.	$999, 1,536 by 1,024 dpi. (800) 235-6325. See this issue, page 218.
Sound Card Creative Sound Blaster Live	Is it real, or is it coming from your sound card? You won't believe your ears. Plus it's loaded with software.	$199, PCI audio, 256 voices. (800) 998-5227. Stay tuned.
Speakers Labtec LCS-1040	USB sound doesn't have to cost an arm and a leg. Now get clear, crisp streaming audio sans a sound card for just $50.	$80, 10 watts per channel, USB. (360) 896-2000. Stay tuned.
Uninterruptible Power Supply American Power Conversion Back-UPS Pro 650	Zap! Don't let a power spike take your data out with it. APC's UPS has you covered.	$265, 650-VA UPS, three battery-backup outlets, three surge-only outlets. (800) 877-4080. See Apr. 1998, page 220.
Input Device Logitech Cordless Wheel Mouse	What's better than a wheel mouse? How about one that's cordless? Works well for southpaws too.	$60, radio frequency controls, Windows 95. (800) 732-3039. Stay tuned.

VIDEO HARDWARE

Dynamite 3-D The ultimate gaming card isn't the one in your PC. It's a Riva TNT-based model from Diamond or STB (see review, page 93).

Top Pick	The Buzz	The Stats*
High-Resolution 21-Inch Monitor Sony Multiscan GDM-500PS	Spoil yourself. You can afford to with Sony's ultrasharp big-screen Trinitron display.	$1,299, 21-inch, 1,600 by 1,200 resolution at 85Hz. (800) 352-7669. See July 1998, page 96.
High-Resolution 17-Inch Monitor Sony Multiscan GDM-200PS	Priced a bit higher than the competition, but you're worth it, right?	$699, 1,600 by 1,200 maximum resolution at 70Hz. (800) 352-7669. Stay tuned.
Flat-Panel Display NEC Technologies MultiSync LCD2010	Twenty inches of gorgeous flat-panel display. Think you can handle it?	$5,999, 20.1-inch viewable area, 1,280 by 1,024 resolution. (800) 632-4636. See Oct. 1998, page 102.
Graphics Accelerator Matrox Millennium G200	The new graphics champ. Blazing-fast 2-D and 3-D in one affordable card.	$149, 8MB RAM, 1,600 by 1,200 resolution. (800) 844-8305. See Sept. 1998, page 92.

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VIDEO HARDWARE continued

Top Pick	The Buzz	The Stats*
3-D Game Card Diamond Viper V550	The 3-D card of choice for hard-core gamers. Its 2-D performance isn't bad either.	$200, 16MB SDRAM, 128-bit nVidea Riva TNT chip. (800) 468-5846. See this issue, page 93.
Multimedia Accelerator ATI All-in-Wonder Pro	The future of PC graphics: a high-speed 3-D accelerator, TV tuner, and video-capture card in one.	$279, 4MB SGRAM. (905) 882-2600. See Mar. 1998, page 198.
Video Capture Pinnacle Systems Studio 400	Edit your camcorder footage and make digital movies in record time with this low-priced hardware-software combo.	$229, 16MB RAM, 30MB disk space (150MB to edit a one-hour movie). (888) 484-3366. Stay tuned.
Presentation Projector In Focus LP425	It's like a mobile movie theater. Take your sizzling presentations on the road with this 6.8-pound wonder.	$5,999 list price, 800 by 600 SVGA resolution, 700 ANSI Lumens, 6.8 pounds. (800) 294-6400. See July 1998, page 94.

COMMUNICATION HARDWARE

Overdrive If you want the best 56K modem, check out 3Com's U.S. Robotics 56K. If you want the cheapest one, try NewCom's V.90 model.

Top Pick	The Buzz	The Stats*
High-Speed Fax Modem 3Com U.S. Robotics 56K Faxmodem	The fastest way to get the Net over analog phone lines. Also available with USB.	$129 for internal, $149 for external, 56Kbps, dual x2 and V.90 support. (800) 342-5877. See Jan. 1998, page 193.
Desktop Videoconferencing PictureTel Live200	Just like being there—without all the costs and hassles of business travel. It's your best bet for powerful videoconferencing.	$1,195, H.320-compliant. (800) 716-6000. See Jan. 1998, page 199.
ISDN Adapter 3Com Courier I-modem	Digital? Analog? The choice is yours with this tried-and-true hybrid. Splurge for the external version with LCD feedback.	$290 internal, $326 external, V.90 and ISDN. (800) 638-3266. Stay tuned.
LAN Adapter 3Com Fast EtherLink XL PCI TX 10/100 Network Interface Card	Moving to Fast Ethernet, but don't know when? Hedge your bets with this 10/100 network card.	$89, 10Mbps or 100Mbps. (800) 638-3266. See Jan. 1998, page 194.
PC Card Modem 3Com Megahertz 56K Global Modem PC Card	Notebook doesn't have a modem? Get the best with this 56K model.	$269, V.90 56Kbps, Type II. (800) 638-3266. See Sept. 1998, page 214.
PC Card LAN Adapter Xircom CreditCard Ethernet 10/100+Modem 56	Connect to your notebook or network at either 10Mbps or 100Mbps, and go online at speeds up to 56Kbps.	$322, PC Card Type II slot, RJ-45 and RJ-11 jacks, upgradable to 56K standard. (800) 438-4526. See Jan. 1998, page 194.

DESKTOP APPLICATIONS

Service Station Office 2000 is just around the corner, but Office 97 Service Release 2 is available now at www.microsoft.com/office.

Top Pick	The Buzz	The Stats*
Software Suite Microsoft Office 97	The best collection of apps you'll find in one box. Don't forget to download the OSR-2 update at www.microsoft.com.	$599 for Professional Edition ($349 for upgrade), Windows 95, 98, or NT. (800) 426-9400. See Jan. 1998, page 206.
Word Processor Microsoft Word 97	The de facto standard for businesses everywhere, and for good reason.	$339, Windows 95, 98, or Windows NT 3.51 or later, 8MB RAM, 16MB RAM for NT. (800) 426-9400. See Jan. 1997, page 87.
Spreadsheet Microsoft Excel 97	It's a one-horse race and guess who's winning? Even Lotus's upgrade of 1-2-3 can't unseat this business favorite.	$339, Windows 95, 98, or Windows NT 3.51 or later, 8MB RAM, 16MB RAM for NT. (800) 426-9400. See Jan. 1997, page 87.

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DESKTOP APPLICATIONS continued

Top Pick	The Buzz	The Stats*
Database Microsoft Access 97	Lotus's $105 Approach 97 is easier to use, but Access 97 lets you publish live data to the Web. It's also faster.	$339, Windows 95, 98, or Windows NT 3.51 or later, 12MB to 16MB RAM. (800) 426-9400. See Mar. 1997, page 171.

FINANCE SOFTWARE

Rake It In Pick up a copy of Quicken or QuickBooks and you can tap into up-to-the-minute stock and financial updates at www.quicken.com.

Top Pick	The Buzz	The Stats*
Personal Finance Manager Intuit Quicken Deluxe 98	No more stamps, envelopes, or headaches. Quicken's online payment features let your computer mind the bills.	$60, Windows 3.1, 95, or 98, 8MB RAM, 14.4Kbps modem, CD-ROM drive. (800) 446-8848. See July 1998, page 203.
Business Accounting Intuit QuickBooks Pro 6.0	So easy you can do it yourself. Check out a QuickBooks seminar at www.quickbooks.com/training.	Starts at $219 for a single user, Windows 95, 98, or NT 4.0. (800) 446-8848. See Oct. 1998, page 118.
Tax Software Intuit TurboTax Deluxe	Make sure your business is ready come tax time at www.quicken.com/small business/taxes and accounting/.	$50, Windows 3.1, 95, or 98. (800) 446-8848. See Feb. 1998, page 103.

NETWORK SOFTWARE

Come Together Keep everyone in your team in the loop with GoldMine 4.0, the best way to share contacts, sales leads, documents, and more.

Top Pick	The Buzz	The Stats*
Network Operating System Microsoft Windows NT Server 4.0	Is NetWare dead? Not yet, but if you're installing a new network operating system, NT is the only way to go.	$809 for NT Server with five clients. (800) 426-9400. See Aug. 1998, page 198.
Groupware Novell GroupWise 5.5	Share projects, communicate, and work faster and smarter than ever.	Starts at $718 for five clients, Windows 95, 98, or NT. (800) 453-1267. Stay tuned.
Small-Office Network Server Microsoft BackOffice Small Business Server	Everything you need to set up network e-mail, an intranet, Web hosting, and network monitoring. It's easy too.	$1,499 for five clients, 100MHz Pentium, 64MB RAM, 2GB hard disk space. (800) 426-9400. See Dec. 1997, page 122.
Group Contact Manager GoldMine Software GoldMine 4.0	The smartest way for teams to track and share contacts, collaborate on sales leads, and close deals.	$695 for five users, Windows 95, 98, or NT. (800) 654-3526. See Mar. 1998, page 124.
LAN Management Tool Intel LANDesk Management Suite 6	You need your network to be reliable. Intel LANDesk lets you manage it properly.	$50 per node for 1,000 nodes, Windows 95, 98, or NT. (800) 538-3373. See Apr. 1998, page 110.

PERSONAL PRODUCTIVITY SOFTWARE

Perfect Printing Outlook 98's calendar printing is a kludge. Work around it; download the Automated Calendar Template from www.microsoft.com.

Top Pick	The Buzz	The Stats*
Contact Manager Symantec ACT 4.0	The only organizer, scheduler, and office assistant you'll ever need.	$200, Windows 95, 98, or NT, 8MB RAM. (800) 441-7234. See May 1998, page 120.
Document Manager ScanSoft Pagis Pro 2.0	Clean off your desk. Pagis Pro makes it a snap to scan, file, edit, annotate, and search photos and documents.	$99, Windows 95, 98, or NT, 24MB RAM. (800) 584-6843. Stay tuned.

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PERSONAL PRODUCTIVITY SOFTWARE continued

Top Pick	The Buzz	The Stats*
Project Manager Microsoft Project 98	Expert-level project management that's easy to use. View and share tasks and time lines painlessly—even via the Web.	$499, Windows 95, 98, or NT, 20MB to 40MB hard disk space. (800) 426-9400. See Dec. 1997, page 166.
Scheduler Microsoft Outlook 98	You want easy? Check your day—meetings, tasks, and new messages—from a single window. Plus superb e-mail.	$109, Windows 95, 98, or NT, Internet Explorer 4.0. (800) 426-9400. See Feb. 1998, page 124.

REFERENCE AND ENTERTAINMENT CDs

The Big Life Money, knowledge, action—you get them all with the latest and greatest software on CD-ROM and DVD.

Top Pick	The Buzz	The Stats*
Business Reference Intuit Quicken Home and Business 98	If home is your office as well as your castle, this is the perfect software for your personal and business finances.	$89, Windows 95 or 98. (800) 446-8848. See Oct. 1998, page 139.
Home Reference Microsoft Encarta 98 DVD-ROM Reference Suite	Get this end-all reference collection of Bookshelf, Encarta, and an atlas on a single DVD disc.	$129 ($109 for CD-ROM version), Windows 95 or 98. (800) 426-9400. See July 1998, page 134.
Game Simon & Schuster Interactive Starship Titanic	Douglas Adams, author of the Hitchhiker's Guide series, brings his absurd humor to an adventure game.	$35, Windows 95 or 98. (888) 973-9972. See Aug. 1998, page 128.
Entertainment GT Interactive Unreal	The latest in the Doom/Quake category features monsters and gore, and the artwork is as good as the gaming.	$55, Windows 95 or 98. (800) 610-4847. Stay tuned.

GRAPHICS SOFTWARE

Get Noticed It takes more than straight text and static graphics to keep customers coming back. Get a head start with Microsoft's PhotoDraw.

Top Pick	The Buzz	The Stats*
Presentation Graphics Microsoft PowerPoint 97	Get your point across with a few well-done slides, or show them more with links to Microsoft Office documents.	$339 ($109 upgrade), Windows 95, 98, or NT, 3.51, 8MB to 16MB RAM. (800) 426-9400. See Jan. 1998, page 214.
Personal Desktop Publisher Microsoft Publisher 98	The fastest way to publish your own pages without cracking a software manual.	$100 ($80 upgrade), Windows 95, 98, or NT, 8MB to 12MB RAM, 24MB hard disk space, (800) 426-9400. See Jan. 1998, page 217.
Professional Desktop Publisher Adobe PageMaker 6.5	Make your professional-quality documents look their best—in print or on the Web.	$895 list price, Windows 95, 98, or NT, 8MB to 16MB RAM, 26MB hard disk space. (800) 422-3623. See Jan. 1998, page 217.
Business Graphics Microsoft PhotoDraw 2000	Microsoft's all-in-one photo editor, designer, and illustrator will give your promotional materials an edge.	$150, Windows 95, 98, or NT, 16MB RAM (32MB recommended). (800) 426-9400. See this issue, page 114.
Personal Photo Editor Jasc Software Paint Shop Pro 5	A no-nonsense photo editor even non-nerds can master.	$69, 486 CPU, Windows 95, 98, or NT, 12MB RAM, 10MB hard disk space. (800) 622-2793. See July 1998, page 118.
Professional Photo Editor Adobe Photoshop 5.0	The best digital darkroom adds long-awaited color management and selective undo features.	$649, 90MHz Pentium, Windows 95, 98, or NT 4.0, 32MB RAM, 80MB hard disk space. (800) 492-3623. See June 1998, page 81.
Illustration Software Adobe Illustrator 8.0	The best free-form professional illustration software gains smarter tools in version 8.0.	$375, $129 upgrade, Windows 95, 98, or NT, 32MB RAM, CD-ROM drive. (800) 649-3875. See Oct. 1998, page 116.

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TOOLS AND UTILITIES

Shovelware Microsoft's $49 Plus 98 add-on for Win98 isn't worth it. If you really need a virus checker or system diagnostics, buy these picks.

Top Pick	The Buzz	The Stats*
Windows 95/98 System Utility Symantec Norton Utilities 3.0 for Windows 95	Spot system trouble before it spots your data. Also in this update to the old classic: virus checking and crash protection.	$79, Windows 95 or 98, 8MB RAM, 35MB hard disk space. (800) 441-7234. See Mar. 1998, page 234.
Windows NT System Utility Symantec Norton Utilities 2.0 for Windows NT	The NT user's answer to Norton Utilities 3.0. Keep your system humming with this complete set of tools.	$99, Windows NT, 16MB RAM. (800) 441-7234. See June 1997, page 130.
Antivirus Software Quarterdeck ViruSweep	So the interface needs polish. Still, ViruSweep provides the best protection from new and undiscovered viruses.	$40, Windows 3.1, 95, or 98, 8MB RAM, 8MB hard disk space. (800) 354-3222. See May 1998, page 124.
OCR Software Caere OmniPage Pro 8.0	Never retype again. OmniPage converts scanned pages into editable text or publishes them to your Web site.	$499 ($99 for upgrade), Windows 95, 98, or NT, 16MB RAM, 33MB hard disk space. (800) 736-5735. See Nov. 1997, page 172.
File Utility Inso Corp. Quick View Plus 4.5	Superman has X-ray vision for peering through walls. You have Quick View Plus for peering into files.	$49, Windows 3.1, 95, 98, or NT, 4MB RAM, 6MB hard disk space. (800) 733-5799. See Jan. 1998, page 224.
Remote Control Software Traveling Software LapLink for Windows 95	Keep your notebook and desktop PCs on speaking terms: Sync files via a cable or dial your desktop from the road.	$150, Windows 95 or 98, 8MB RAM, 7MB hard disk space. (800) 343-8080. See Jan. 1997, page 156.
Application Development Tool Microsoft Visual Basic 6.0 Professional Edition	The easiest and fastest way to develop custom Windows apps. This version adds database and Web smarts.	$549, Windows 95, 98, or NT 4.0, 76MB to 200MB hard disk space. (800) 426-9400. See Sept. 1998, page 109.

WEB BROWSERS AND UTILITIES

Fifth Element New 5.0 versions of Internet Explorer and Navigator are just around the corner. Get ready for the browser wars to heat up again.

Top Pick	The Buzz	The Stats*
Web Browser Microsoft Internet Explorer 4.01	The best browser you can't buy and the best reason to upgrade to Windows 98.	Free, Windows 95, 98, or NT. (800) 426-9400. See Jan. 1998, page 117.
Internet Utility Novasoft SpamKiller 2.02	Stop spam before it stops you with this sophisticated and customizable utility.	$30, Windows 95, 98, or NT, POP3 or MAPI e-mail account. www.spamkiller.com. See Oct. 1998, page 129.
Newsgroup Reader Microsoft Outlook Express	Hooked on Usenet? Then get the best newsgroup reader the Net has to offer. It's free too.	Free, Windows 95, 98, or NT. (800) 426-9400. See Jan. 1998, page 117.
Security/Encryption Network Associates PGP for Personal Privacy 5.5	Just because you're paranoid doesn't mean they're not out to get you. Go deep undercover with this encryption tool.	$39, public-key cryptography, digital signatures. (408) 988-3832. See Oct. 1997, page 172.

WEB SEARCH ENGINES AND SERVICES

Don't Go There Need to keep employees with Internet access on a short leash? Check out SurfWatch Professional Edition (www.surfwatch.com).

Top Pick	The Buzz	The Stats*
Search Engine Wired Digital HotBot	If it's out there, you'll find it with HotBot.	Free, www.hotbot.com. See Jan. 1998, page 238.
Web Accelerator Web 3000 NetSonic	Accelerate your surf sessions with this Net freebie. Or go wild and get the Deluxe edition for just $30.	Free, works with any browser. (425) 836-3000, www.web3000.com. Stay tuned.

*ESTIMATED STREET PRICE.

The Future of 3D Speed Is Now

VELOCITY 4400™ is the future of technology and you can have it now. It boasts a 128-bit, twin-texel processor and the power of 7 million transistors (almost as many as the Intel Pentium II) to deliver the fastest performance you'll find on any 2D/3D accelerator.

- Integrated 128-bit 3D/2D and video accelerator
- 16MB of memory for resolutions up to 1920x1200
- 250MHz RAMDAC for refresh rates up to 160MHz
- Output to monitor or TV (s-video & composite)
- Lifetime warranty and unlimited toll-free suppport
- Available for AGP and PCI bus

VELOCITY 4400 races ahead of the competition

3D WinBench '98†

VELOCITY 4400	1800
VIPER V550	1490
Monster 3D II	1120
Millennium G-200	1100

Viewperf CDRS-03††

VELOCITY 4400	45
FireGL 1000 Pro	35
Xpert@Work	18
G-200	12

High End WinMark '98*†

VELOCITY 4400	297
FireGL 1000 Pro	272
Millennium G-200	260
ATI Xpert@Work	205

STB products are available at:

BEST BUY · COMPUSA · Fry's · Babbage's · electronics boutique · CDW · NECX · MicroWarehouse 1-800-397-8508

STB products are available in systems from:

Gateway · COMPAQ · DELL · IBM

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 continued from page 72

WEB SEARCH ENGINES AND SERVICES continued

Top Pick	The Buzz	The Stats*
National Online Service America Online	You've got too much mail and AOL can help. New antispam tools and an interface update are worth the wait.	$21.95 per month for unlimited access, $9.95 per month for unlimited AOL access. (800) 827-6364. See Jan. 1998, page 238.
National Internet Service Provider UUNet Technologies	Great customer support. Decent service rates. And best of all, no busy signals. What more could you ask for?	$30 per month for 25 hours, $300 and up per month for Web hosting. (800) 488-6384. See Jan. 1998, page 240.
News Service Wall Street Journal Interactive Edition	One of the few subscription-based sites worth paying for.	$49 per year, $29 per year for *Wall Street Journal* subscribers. www.wsj.com. See Jan. 1998, page 240.
Financial Service E*Trade	Still paying for your broker's expensive suits? Cut commission costs with E*Trade.	$14.95 per trade for up to 5,000 shares. (800) 387-2331, www.etrade.com. See Jan. 1998, page 242.

WEB COMMUNICATIONS

Fast Fax No more waiting. Internet faxing gets better, thanks to VoCal's VoIPfax technology, which lets you fax in real time.

Top Pick	The Buzz	The Stats*
Internet E-mail Microsoft Outlook Express	Download the new security fix for e-mail with attachments: www.microsoft.com/ie/security/?/ie/security/oelong.htm.	Free, Windows 95, 98, or NT. (800) 426-9400. Stay tuned.
Internet Phone Microsoft NetMeeting 2.1	Make your connections better than ever. Get the newest audio and video drivers at www.microsoft.com/netmeeting/corp/.	Free, Windows 95 or NT, www.microsoft.com/netmeeting. (800) 426-9400. Stay tuned.
Internet Fax FaxSav Internet Suite of Services	No way to print on the road? Fax yourself the document instead, and it'll be hand delivered by room service.	Free for software, 15 cents per page for domestic faxes. (800) 828-7115. See Sept. 1997, page 188.
Internet Videoconferencing White Pine Software CU-SeeMe 3.1	Hold face-to-face meetings without breaking out the breath mints.	$79, $69 download at www.cuseeme.com. (800) 241-7463. See Jan. 1998, page 237.

WEB DEVELOPMENT TOOLS

You Live in Office? Why not use it to create your Web pages? FrontPage 2000 will arrive early next year with complete Office 2000 integration.

Top Pick	The Buzz	The Stats*
Web Publisher Microsoft FrontPage 98	You're no Web wonk—but you don't have to be to create a killer home base on the Net with FrontPage.	$149 ($55 for upgrade), Windows 95, 98, or NT. (800) 426-9400. See Nov. 1997, page 189.
Web Server Software Microsoft Internet Information Server 4.0	If you've got Windows NT, you've already got the best Web server around—it's IIS 4.0 and it's free with Windows NT 4.0.	Free for NT Server users, Windows NT 4.0, 486 CPU, 16MB RAM. (800) 426-9400. See Jan. 1998, page 246.
Site Management Utility Tetranet Software Linkbot 3.5	Never apologize for a broken link or an outdated site again. Clean up your act and your site without breaking a sweat.	$250, Windows 95 or NT. (888) 245-5550. See Jan. 1998, page 242.
Commerce Server Microsoft Site Server 3.0 Commerce Edition	Move your boutique from Main Street to the entire world with Microsoft's all-you-need commerce suite.	$3,499, Windows NT 4.0, Internet Explorer, FrontPage 98. (800) 426-9400. See June 1998, page 98.
Web Animation Software Macromedia Flash 3	Want to jazz up that dead-end site with a little animation? Do it yourself with this easy, inexpensive gem.	$299, Windows 95 or Windows NT, 486 CPU, 16MB RAM. (800) 945-9075. See Jan. 1998, page 244.
Java Development Symantec Visual Café for Java 2.5	Build custom Java apps on your lunch hour.	$300, Windows 95 or NT, 90MHz Pentium, 24MB RAM, 35MB hard disk space. (800) 441-7234. See Jan. 1998, page 244.

*ESTIMATED STREET PRICE.

THEY SAID YOU'D NEVER MAKE IT.
THEY SAID THEY'VE SEEN YOUR KIND BEFORE.
THEY SAID THE MARKET WAS SATURATED.
THEY SAID IT ALL BECAUSE THEY WERE SCARED OF YOU.

Stay ahead.

New Rules. New Tools.™

MICRON ELECTRONICS™

Faster...Faster...Faster...

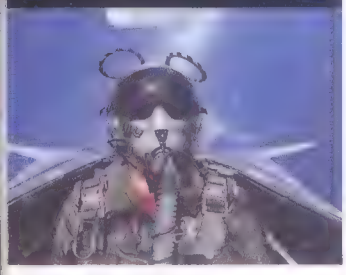
1 Clocked at speeds over 60mph, the cheetah is the fastest land animal. This "big cat" hunts mainly gazelle, but the average chase lasts only about 20 seconds.

2 In early October 1998, *PC World* Magazine ranks the Micron Millennia the #1 Power Desktop on the market calling it "the fastest of all" systems tested.

INTRODUCING THE NEW FULLY LOADED 450MHz MICRON MILLENNIA

MICRON GOES TO WORK

Raytheon Data Systems
Defense Contractor



Micron Systems:
Over 100,000 deployed Micron desktops, notebooks & servers

Favorite Feature:
Price/power ratio

Purpose:
Help maintain US security and freedom

For The Whole Story: www.micronpc.com

Tim Willits
Lead Map Designer, id Software
Creators of Quake & Quake II

Micron Systems:
Micron Millennia 400 desktops

Favorite Feature:
400MHz - Of course

Purpose:
Test mind-bending levels of Quake II and help create one of the coolest games ever

For The Whole Story:
www.micronpc.com

Featuring Intel's Fastest Processor Ever

Just named #1 450MHz desktop by the editors of *CNET* and #1 Power Desktop by the editors of *PC World* Magazine (Millennia 400 DVD • October '98), Micron's Millennia desktop product line continues a long tradition of industry-leading, award-winning performance. Perhaps that's why some of the most prominent power users around rely on Micron. No matter how strenuous your demands, no matter how colossal the task, we invite you to put a Millennia® desktop to the test. You'll be hard-pressed to find a Pentium® II processor based system as powerful and affordable as the Micron™ Millennia. And Micron's revolutionary new MPower℠ purchase program makes Millennia ownership even easier, offering qualified users no interest◊ or payments for six months as well as PowerXchange℠ trade-in options on your current PC towards a new Millennia desktop.

MICRON'S EXCLUSIVE CONSUMER 6 NO PAYMENTS NO INTEREST 6 MONTH SAME AS CASH OFFER

PC WEEK READERS RANK MICRON #1 IN DESKTOP CUSTOMER SATISFACTION‡‡

PC WORLD — Millennia 350 Oct '98 Sept '98

PC WORLD — Millennia 400 Oct '98 Sept '98

CNET.COM — Millennia 450 Editors' Choice Aug '98

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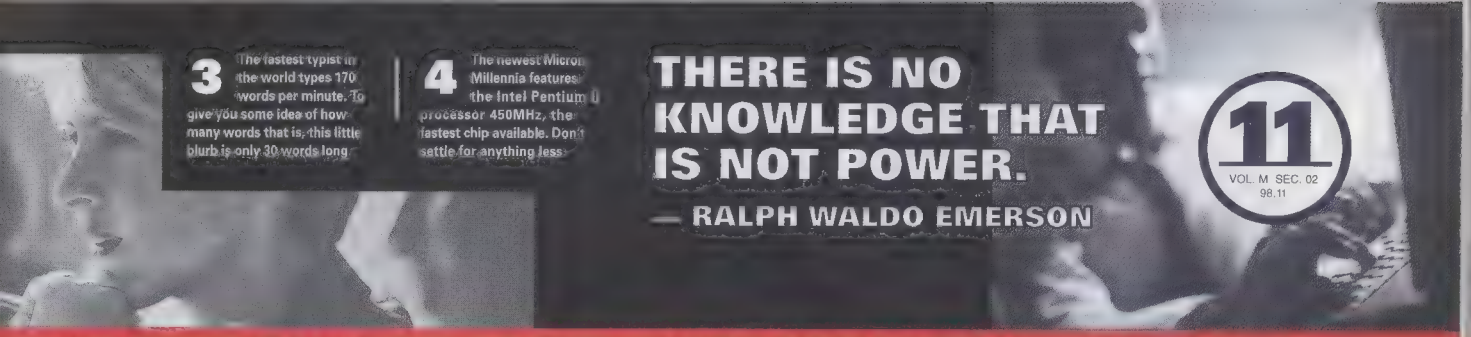
A non-refundable up-front freight charge applies for participation in PowerXchange to cover cost of return packaging and processing.



How important is a 10% performance difference? Think of it as 1 hour and 12 minutes in an 8-hour day.

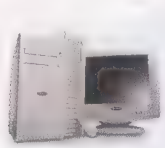
New Rules. New Tools.™

The Micron Difference: Rock-Solid Reliability. MPower℠ and PowerXchange℠ Programs. Industry-Leading Service and Support.

There's a lot more to owning a system than having a computer sitting on your desk. You'll always want the latest technology, great pricing and service and support you can count on — and that's exactly what Micron's new MPower program is all about. Call today for details or visit www.micronpc.com/pccom.

intel inside pentium® II PROCESSOR

Award-Winning Complete Internet-Ready† 450MHz Systems Starting at Just $1,799



Model Name	Millennia C300	Millennia 350	Millennia 400	New! Millennia 450	New! Millennia 450 MAX
Processor	Intel® Celeron™ processor 300MHz	Intel Pentium® II processor 350MHz	Intel Pentium II processor 400MHz	Intel Pentium II processor 450MHz	Intel Pentium II processor 450MHz
Cache	128KB internal L2 cache	512KB internal L2 cache	512KB internal L2 cache	512KB internal L2 cache	512KB internal L2 cache
RAM	32MB SDRAM	64MB 100MHz SDRAM	64MB 100MHz SDRAM	64MB 100MHz SDRAM	128MB 100MHz SDRAM
Hard Drive	4.3GB Ultra ATA hard drive	10GB Ultra ATA hard drive	10GB Ultra ATA hard drive	10GB Ultra ATA hard drive	14.4GB 7200 RPM Ultra ATA hard drive
Monitor	15" Micron 500Vx monitor (13.8" display)	17" Micron 700Vx monitor (15.9" display)	17" Micron 700Vx monitor (15.9" display)	17" Micron 700Vx monitor (15.9" display)	19" Micron 900Lx monitor (18" display)
DVD/CD-ROM	32X max speed CD-ROM drive	32X max speed CD-ROM drive	32X max speed CD-ROM drive	32X max speed CD-ROM drive	DVD-ROM drive and decoder card***
Modem	3Com/U.S. Robotics 56K WinModem**	3Com/U.S. Robotics 56K WinModem**	3Com/U.S. Robotics 56K WinModem**	3Com/U.S. Robotics 56K WinModem**	3Com/U.S. Robotics 56K WinModem**
Graphics	nVidia Riva 128, 4MB SGRAM 3D AGP graphics	nVidia Riva 128, 8MB SGRAM 3D AGP graphics	nVidia Riva 128, 8MB SGRAM 3D AGP graphics	nVidia Riva 128, 8MB SGRAM 3D AGP graphics	Real 3D Starfighter i740, 8MB AGP graphics
Sound System	PCI 64-voice Wavetable sound	PCI 64-voice Wavetable sound	PCI 64-voice Wavetable sound	PCI 64-voice Wavetable sound	PCI 64-voice Wavetable sound
Warranty	5-year/3-year Micron Power℠ limited warranty	5-year/3-year Micron Power limited warranty	5-year/3-year Micron Power limited warranty	5-year/3-year Micron Power limited warranty	5-year/3-year Micron Power limited warranty
Software Included	Microsoft® Windows® 98 Microsoft Home Essentials Microsoft Power Pak Norton AntiVirus	Microsoft Windows 98 Microsoft Office 97 Small Business Edition Norton AntiVirus	Microsoft Windows 98 Microsoft Office 97 Small Business Edition Norton AntiVirus	Microsoft Windows 98 Microsoft Office 97 Small Business Edition Norton AntiVirus	Microsoft Windows 98 Microsoft Office 97 Small Business Edition Norton AntiVirus
Also Includes:	New MicroTower™ case Advent AV009 stereo speakers 104-key enhanced keyboard Microsoft IntelliMouse® 3.5" floppy drive	New MicroTower case Advent AV009 stereo speakers 104-key enhanced keyboard Microsoft IntelliMouse 3.5" floppy drive	New MicroTower case Advent AV009 stereo speakers 104-key enhanced keyboard Microsoft IntelliMouse 3.5" floppy drive	New MicroTower case Advent AV009 stereo speakers 104-key enhanced keyboard Microsoft IntelliMouse 3.5" floppy drive	Micron MiniTower case Monsoon MM1000 flat panel speakers 100MB Iomega Zip Drive 104-key enhanced keyboard Microsoft IntelliMouse 3.5" floppy drive
Price	$1,199 $42/mo. TechRefresh Bus. Lease, 36 mos.**	$1,649 $58/mo. TechRefresh Bus. Lease, 36 mos.**	$1,749 $61/mo. TechRefresh Bus. Lease, 36 mos.**	$1,799 New Low Price! $63/mo. TechRefresh Bus. Lease, 36 mos.**	$2,899 New Low Price! $101/mo. TechRefresh Bus. Lease, 36 mos.**
Upgrade to:	6.4GB Ultra ATA hard drive 17" Micron 700Vx monitor (15.9" display) 100MB Iomega Zip drive	13.6GB Ultra ATA hard drive 19" Micron 900Lx (18" display) 100MB Iomega Zip drive	13.6GB Ultra ATA hard drive 19" Micron 900Lx (18" display) 100MB Iomega Zip drive	13.6GB Ultra ATA hard drive 19" Micron 900Lx (18" display) 100MB Iomega Zip drive	256MB 100MHz SDRAM Microsoft Natural Keyboard Elite
Price	$1,426 $50/mo. TechRefresh Bus. Lease, 36 mos.**	$1,996 $70/mo. TechRefresh Bus. Lease, 36 mos.**	$2,096 $73/mo. TechRefresh Bus. Lease, 36 mos.**	$2,196 New Low Price! $77/mo. TechRefresh Bus. Lease, 36 mos.**	$3,214 New Low Price! $112/mo. TechRefresh Bus. Lease, 36 mos.**

MICRON ELECTRONICS™

†The internet service provider is not included.

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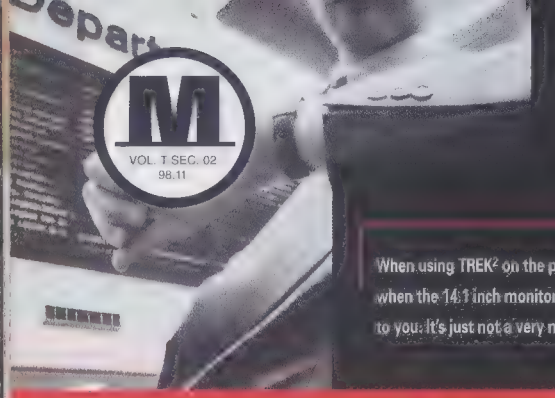
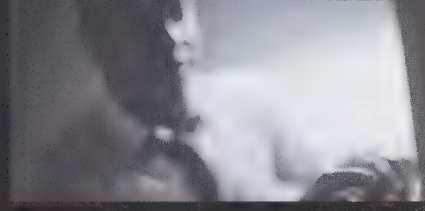
Call us toll-free or order online at www.micronpc.com/pccom





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HELP FOR THE MOBILE WORKAHOLIC

When using TREK² on the plane, try not to laugh when the 14.1 inch monitor dwarfs the guy's next to you. It's just not a very nice thing to do.

Pack light — there's nothing worse than a carry-on that leaves divots in your shoulder, which is why the TREK² is as thin as 1.7" and as light as 7.2lbs.

Avoid the isolation induced by the single-use, personal mini-soaps of the hotel room by staying connected with an optional 56K modem.**

IT'S ALMOST SILLY TO CALL A 300MHz NOTEBOOK WITH THIS MUCH POWER AND A 14.1" DISPLAY A "BUDGET PORTABLE"

AMY ALCORN, MD

Pediatrician
System: Micron TransPort TREK
Favorite Feature: Brilliant Display
Purpose: Online Medical Research
For The Whole Story: www.micronpc.com

BOB PARKER

Owner/Founder Parker Motor Sports
Dominant Indy Race Car Team
Systems: Micron TransPort TREK Notebooks/ Millennia Desktops
Favorite Feature: Speed — Of Course!
Purpose: Telemetry between Indy Car and Pit Crew
For The Whole Story: www.micronpc.com

TREK ²

New! 300MHz
14.1" XGA TFT display
64MB SDRAM
3.2GB hard drive (removable)
Just $2,799

PENTIUM® II PROCESSOR POWER, AGP GRAPHICS AND A 14.1" DISPLAY AT BREAKTHROUGH PRICING

Experts and industry pundits all agree that Micron makes some of the world's best notebooks. Our product lines have won the coveted *PC Magazine* Editors' Choice award along with a myriad of other prestigious awards. And the new TransPort® TREK™ is no exception. *PC World* ranked the new TransPort TREK the #1 budget notebook available today**. And with a Pentium II processor 300MHz, AGP graphics and a gigantic 14.1" display, the TransPort TREK² is one of the best desktop replacements you can buy. Call Micron today and get a TransPort TREK² custom configured to your specific needs direct from the factory at unbelievably low prices.

"The TransPort TREK is the Fastest Budget Notebook We've Run Through Our Mill."
—*PC World*, Ranked #1, "Best Buy," April '98

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A non-refundable up-front freight charge applies for participation in PowerXchange to cover cost of return packaging and processing.

Clients Don't Come To You

11
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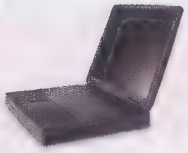
98.11

Work hard, but leave time for some major goofing off. And with a 24X CD-ROM drive and 3.5" floppy included, whether it's games or work, you'll have access to it all.

Don't be afraid to hug your notebook. Sometimes, nothing is more comforting to the weary road warrior than 300MHz of mobile desktop-replacing power.

The world is a book, and those who do not travel, read only a page.
—William Goins, III



Now Featuring Brilliant 14.1" Display!

Model Name	TREK² 233	TREK² 233	TREK² 266	New! TREK² 300
Processor	Intel® Pentium® II processor 233MHz	Intel Pentium II processor 233MHz	Intel Pentium II processor 266MHz	Intel Pentium II processor 300MHz
Cache	512KB L2 pipeline burst cache	512KB L2 pipeline burst cache	512KB L2 pipeline burst cache	512KB L2 pipeline burst cache
RAM	32MB SDRAM	64MB SDRAM	64MB SDRAM	64MB SDRAM
Hard Drive	3.2GB hard drive	3.2GB hard drive (removable)	3.2GB hard drive (removable)	3.2GB hard drive (removable)
Monitor	12.1" SVGA TFT display	14.1" XGA TFT display	14.1" XGA TFT display	14.1" XGA TFT display
Extra Storage	3.5" floppy disk drive	3.5" floppy disk drive (dedicated bay)	3.5" floppy disk drive (dedicated bay)	3.5" floppy disk drive (dedicated bay)
CD-ROM	24X CD-ROM drive	24X CD-ROM drive (dedicated bay)	24X CD-ROM drive (dedicated bay)	24X CD-ROM drive (dedicated bay)
Graphics	4MB AGP graphics accelerator	4MB AGP graphics accelerator	4MB AGP graphics accelerator	4MB AGP graphics accelerator
Sound System	Built-in stereo speakers & microphone	Built-in stereo speakers & microphone	Built-in stereo speakers & microphone	Built-in stereo speakers & microphone
Warranty	5-year/1-year Micron limited warranty	5-year/1-year Micron limited warranty	5-year/1-year Micron limited warranty	5-year/1-year Micron limited warranty
Software Included	Microsoft® Windows® 98 System Wizard Mobile Client™ Norton AntiVirus	Microsoft Windows 98 Microsoft Office Small Business Edition System Wizard Mobile Client™ Norton AntiVirus	Microsoft Windows 98 Microsoft Office Small Business Edition System Wizard Mobile Client™ Norton AntiVirus	Microsoft Windows 98 Microsoft Office Small Business Edition System Wizard Mobile Client™ Norton AntiVirus
Also Includes:	Zoomed Video capable Li-Ion battery (dedicated bay) Microphone, stereo line-in/out jacks Touchpad pointing device CardBus ready S-Video & NTSC out; MPEG compatible Wavetable/3D Positional Sound 2-way fast infrared port 2 Type II/1 Type III PCMCIA slots 2-USB, parallel, serial, VGA, PS/2 ports	Zoomed Video capable Li-Ion battery (dedicated bay) Microphone, stereo line-in/out jacks Touchpad pointing device CardBus ready S-Video & NTSC out; MPEG compatible Wavetable/3D Positional Sound 2-way fast infrared port 2 Type II/1 Type III PCMCIA slots 2-USB, parallel, serial, VGA, PS/2 ports	Zoomed Video capable Li-Ion battery (dedicated bay) Microphone, stereo line-in/out jacks Touchpad pointing device CardBus ready S-Video & NTSC out; MPEG compatible Wavetable/3D Positional Sound 2-way fast infrared port 2 Type II/1 Type III PCMCIA slots 2-USB, parallel, serial, VGA, PS/2 ports	Zoomed Video capable Li-Ion battery (dedicated bay) Microphone, stereo line-in/out jacks Touchpad pointing device CardBus ready S-Video & NTSC out; MPEG compatible Wavetable/3D Positional Sound 2-way fast infrared port 2 Type II/1 Type III PCMCIA slots 2-USB, parallel, serial, VGA, PS/2 ports
Price	$1,899 $66/mo. TechRefresh Bus. Lease, 36 mos.**	$2,399 $84/mo. TechRefresh Bus. Lease, 36 mos.**	$2,599 $91/mo. TechRefresh Bus. Lease, 36 mos.**	$2,799 $98/mo. TechRefresh Bus. Lease, 36 mos.**

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FOUR WAYS MICRON'S MPower MAKES OBSOLESCENCE OBSOLETE.

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1. Trade in your current computer systems from leading manufacturers and we'll give you wholesale rebates with the purchase of new Micron systems. We'll even send you boxes to package up your old PCs.

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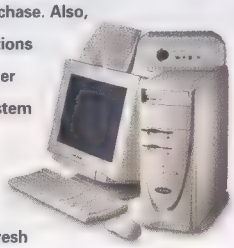
Some companies ask you to buy into their program, but don't offer you a rebate for your existing systems. They may also require you to purchase Internet services you may not need or financing options with rates as high as 25%. MPower, however, allows you to trade virtually any system for a rebate with your Micron purchase. Also, not only are there no restrictions on program qualification other than owning a qualifying system and purchasing a Micron™ computer but MPower offers flexible payment options such as the TechRefresh lease and 6-month same-as-cash payment plan. Then, once you've bought a system, other programs may lock you in for two years before you can trade up. MPower allows trade-ins as early as 12 months. In addition, only MPower includes an option to dispose of obsolete machines in an environmentally safe way.



MPower makes hardware obsolescence obsolete

The more you learn about MPower, the more you'll see that it's really the only program designed to truly maximize your technology investment. By delivering additional benefits other programs overlook, MPower provides the most comprehensive way to keep the latest technology working for you now and in the future.

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A non-refundable up-front freight charge applies for participation in PowerXchange to cover cost of return packaging and processing.

OBSOLESCENCE PROTECTION

3. Other computer companies make you wait 2 to 4 years in their upgrade programs before you can trade up, and many hold you to restrictive finance agreements. With Micron you're eligible to upgrade a system anytime from 12 to 48 months after purchase, regardless of how you finance your purchase. Plus, you can send us your old machines for wholesale trade-in rebates which apply towards the purchase of new machines.

CUSTOM CONFIGURATION

4. Some manufacturers force you to purchase pre-selected software packages to qualify for their programs. Not Micron. We offer unparalleled hardware and software flexibility with all our custom-configured machines.

MICRON ANNOUNCES BREAKTHROUGH PRICING ON AWARD-WINNING SYSTEMS

Model Name	Millennia® C300	Millennia 350	Millennia 400	New! Millennia 450	New! Millennia 450 MAX
Processor	Intel® Celeron™ processor 300MHz	Intel Pentium® II processor 350MHz	Intel Pentium II processor 400MHz	Intel Pentium II processor 450MHz	Intel Pentium II processor 450MHz
Cache	128KB internal L2 cache	512KB internal L2 cache	512KB internal L2 cache	512KB internal L2 cache	512KB internal L2 cache
RAM	32MB SDRAM	64MB 100MHz SDRAM	64MB 100MHz SDRAM	64MB 100MHz SDRAM	128MB 100MHz SDRAM
Hard Drive	4.3GB Ultra ATA hard drive	10GB Ultra ATA hard drive	10GB Ultra ATA hard drive	10GB Ultra ATA hard drive	14.4GB 7200 RPM Ultra ATA hard drive
Monitor	15" Micron 700Vx monitor (15.9" display)	17" Micron 700Vx monitor (15.9" display)	17" Micron 700Vx monitor (15.9" display)	17" Micron 700Vx monitor (15.9" display)	19" Micron 900Vx monitor (18" display)
DVD/CD-ROM	32X max speed CD-ROM drive	32X max speed CD-ROM drive	32X max speed CD-ROM drive	32X max speed CD-ROM drive	DVD-ROM drive and decoder card***
Modem	3Com/U.S. Robotics 56K WinModem**	3Com/U.S. Robotics 56K WinModem**	3Com/U.S. Robotics 56K WinModem**	3Com/U.S. Robotics 56K WinModem**	3Com/U.S. Robotics 56K WinModem**
Graphics	nVidia Riva 128, 4MB SGRAM 3D AGP graphics	nVidia Riva 128, 8MB SGRAM 3D AGP graphics	nVidia Riva 128, 8MB SGRAM 3D AGP graphics	nVidia Riva 128, 8MB SGRAM 3D AGP graphics	Real 3D Starfighter i740, 8MB AGP graphics
Sound System	PCI 64-voice Wavetable sound	PCI 64-voice Wavetable sound	PCI 64-voice Wavetable sound	PCI 64-voice Wavetable sound	PCI 64-voice Wavetable sound
Warranty	5-year/3-year Micron Power limited warranty	5-year/3-year Micron Power limited warranty	5-year/3-year Micron Power limited warranty	5-year/3-year Micron Power limited warranty	5-year/3-year Micron Power limited warranty
	$1,199 $42/mo. TechRefresh Bus. Lease, 36 mos.**	$1,649 $58/mo. TechRefresh Bus. Lease, 36 mos.**	$1,749 $61/mo. TechRefresh Bus. Lease, 36 mos.** New Low Price!	$1,799 $63/mo. TechRefresh Bus. Lease, 36 mos.** New Low Price!	$2,899 $101/mo. TechRefresh Bus. Lease, 36 mos.** New Low Price!

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Model Name	TREK™² 266	New! TREK² 300	GoBook™ 233	GoBook² 266	New! GoBook² 300
Processor	Intel Pentium II processor 266MHz	Intel Pentium II processor 300MHz	Intel Pentium processor with MMX™ technology 233MHz	Intel Pentium II processor 266MHz	Intel Pentium II processor 300MHz
Cache	512KB L2 pipeline burst cache	512KB L2 pipeline burst cache	512KB L2 pipeline burst cache	512KB L2 pipeline burst cache	512KB L2 pipeline burst cache
RAM	64MB SDRAM	64MB SDRAM	32MB EDO DRAM	32MB EDO DRAM	32MB EDO DRAM
Hard Drive	3.2GB hard disk drive (removable)	3.2GB hard disk drive (removable)	2.1GB hard drive	3.2GB hard disk drive	3.2GB hard disk drive (removable)
Monitor	14.1" XGA TFT display	14.1" XGA TFT display	12.1" SVGA TFT display	12.1" SVGA TFT display	12.1" SVGA TFT display
CD-ROM	24X CD-ROM (dedicated bay)	24X CD-ROM (dedicated bay)	24X modular CD-ROM drive	24X modular CD-ROM	24X CD-ROM (dedicated bay)
Graphics	4MB AGP graphics accelerator	4MB AGP graphics accelerator	2MB/128-bit graphics accelerator	2MB/128-bit graphics accelerator	2MB/128-bit graphics accelerator
Sound System	Built-in stereo speakers & microphone	Built-in stereo speakers & microphone	16-bit stereo/Wavetable sound	16-bit stereo/Wavetable sound	16-bit stereo/Wavetable sound
Warranty	5-year/1-year Micron limited warranty	5-year/1-year Micron limited warranty	5-year/1-year Micron limited warranty	5-year/1-year Micron limited warranty	5-year/1-year Micron limited warranty
Upgrades	128MB SDRAM for $199	128MB SDRAM for $199	Add SuperBase battery for $299	Add SuperBase battery for $299	Add SuperBase battery for $299
	$2,599 $91/mo. TechRefresh Bus. Lease, 36 mos.**	$2,799 $98/mo. TechRefresh Bus. Lease, 36 mos.**	$1,999 $70/mo. TechRefresh Bus. Lease, 36 mos.** New Low Price!	$2,699 $94/mo. TechRefresh Bus. Lease, 36 mos.**	$2,999 $105/mo. TechRefresh Bus. Lease, 36 mos.**

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	CRT Monitor Model/ Viewable Area	TCO	Dot Pitch/ CRT Type	Max. Horizontal Scan Rate	Max. Resolution	Est. Street Price
21"	**VisionMaster Pro 502** (19.5" VIS)	TCO '95	0.28mm/AG	110khz	1800 x 1440@74hz	$999
	VisionMaster Pro 501 (19.5" VIS)	TCO '95	0.28mm/AG	96khz	1600 x 1200@75hz	$939
	VisionMaster 502 (19.5" VIS)	TCO '95	0.27mm/dp	110khz	1800 x 1440@74hz	$999
	VisionMaster 501 (19.5" VIS)	TCO '95	0.27mm/dp	96khz	1600 x 1200@75hz	$939
19"	**VisionMaster Pro 450** (18.0" VIS)	TCO '95	0.25mm/AG	102khz	1600 x 1200@80hz	$699
	VisionMaster 450 (18.0" VIS)	TCO '95	0.26mm/dp	102khz	1600 x 1200@80hz	$659
17"	**VisionMaster Pro 400** (16.0" VIS)	TCO '95	0.25mm/AG	96khz	1600 x 1200@75hz	$498
	VisionMaster 400 (16.0" VIS)	TCO '95	0.26mm/dp	96khz	1600 x 1200@75hz	$459
	S702GT (16.0" VIS)	TCO '95	0.28mm/dp	96khz	1280 x 1024@85hz	$369
15"	**VisionMaster 350** (13.7" VIS)	MPR-II	0.28mm/dp	69khz	1280 x 1024@65hz	$239

	TFT/LCD Monitor Model	TCO	Pixel Pitch	Max. Horizontal Scan Rate	Max. Resolution	Est. Street Price
14.1"	**Pro Lite 36a** (with OSD)	TCO '95	0.279mm	62.5khz	1024 x 768@75hz	$899
	Pro Lite 36b (80° Viewing Angle)	TCO '95	0.279mm	62.5khz	1024 x 768@75hz	$1,129
15"	**Pro Lite 38a** (with OSD)	TCO '95	0.279mm	62.5khz	1024 x 768@75hz	$1,129
	Pro Lite 38b (with OSD, USB & Speaker)	TCO '95	0.279mm	62.5khz	1024 x 768@75hz	$1,179

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January 6, 1998
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Perfect Five-Star Rating
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ComputerLife
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November 1997
VisionMaster Pro 17

Performance & Technical Excellence
March 1997
VisionMaster Pro 21

MW EDITORS' CHOICE
Six Time Winner
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PC MAGAZINE EDITORS' CHOICE
October 7, 1997
VisionMaster Pro 17

CADALYST LABS 4½ STAR RATING 1998
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VisionMaster Pro 21

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VisionMaster Pro 17
April 1998, August 1998
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Infolink 129 at: www.pccomputing.com/infolink

Dear John

Maybe it's some kind of goofball millennial madness. Or maybe civilization just likes to rear up on its hind legs every so often and have a big old laugh. Things sure are getting weird. You can't say *blue Gap dress* now without giggling. The words *it tastes good* have forever been ruled out as the motto of any cigar company. Our president is compared in various mainstream newspapers with Joey Buttafuoco. And the very same day every news Web site on the planet broadcasts graphic details about unzipping (the Clinton kind, not file compression), the U.S. House of Representatives holds hearings on "protecting children from inappropriate material on the Internet."

Or how about this—John Dvorak, the industry's most respected computer columnist, says in the pages of the magazine you're holding that there are no more killer apps. This is like the "everything that can be invented has been invented" howler attributed to Charles H. Duell, Commissioner, U.S. Office of Patents, in 1899. Or Bill Gates once sniffing that "640K ought to be enough for anybody."

Now I really respect John, and mostly agree with him (he's right about both the growth of home networking and the shrinking PC form factor), so I have to think he's being arch and making a statement about the lack of really inventive software. So what killer apps are coming?

Home Banking Yes, banks are currently clueless about making it easy, but just as Amazon.com did with books, one will figure it out, and will radically alter the way we all handle money. Paying bills with checks and stamps and envelopes is a huge pain. Doing it electronically, with recurring payments and automatic account transfers is clearly the future. And as a bonus, you'll be able to download all your transactions into Excel or Quicken at tax time. But someone has to make it safe and simple.

Paul Somerson

Every news site on the planet **broadcast** graphic details about **unzipping** (the Clinton kind).

What will really kick this into high gear is smart cards, which will change banking more than ATMs did. We'll have card terminals next to our phones or slots in our PCs that will download e-cash. Even better, a single smart card or superslim micro-PDA will replace all our credit cards, health-insurance IDs, drivers licenses, and address books. This is around the corner.

Real Search Engines The ones we have today are blunt instruments. Finding anything is a matter of knotty Boolean syntax and pure blind luck. This situation will worsen as more sites are generated dynamically from databases, with fewer static pages to index.

Several sites are doing smart tricks like looking at links on the pages they find and grouping the results accordingly. It's a start. One will figure out how to do it right, and finally make the Web usable.

Real Graphics Programs Most documents we produce are either all-text or illustrated with corny clip art. They're like newspapers from 100 years ago. Digital cameras will change this as they replace film-based ones in the next few years. A digital camera is just a lens and a bunch of chips that are getting cheaper and cheaper. We'll soon be drowning in billions of images that we'll all want to edit without having to go to art school. Current programs are way too hard. A new killer one will fix the problem.

Digital Speech This is a couple years away. Typing is way too 19th-century. It's slow and inaccurate. In 50 years we'll talk to computers and they'll reply. Ditto 10 years. Probably five. Maybe two. There are a lot of rich companies investing huge resources here, and it's partially solved by throwing horsepower at it. IBM, Dragon, Microsoft, and Philips are closing in.

Others? **MP3 players** that download endless free music from the Web. A **real file manager** that's not like the razor-blade–studded toy in Windows. And the biggest of all—**e-commerce,** the ultimate yard sale and the way we'll buy just about everything in the decades ahead. Just watch.

E-mail somerson@zd.com

PHOTOGRAPH BY DAVID PERRY

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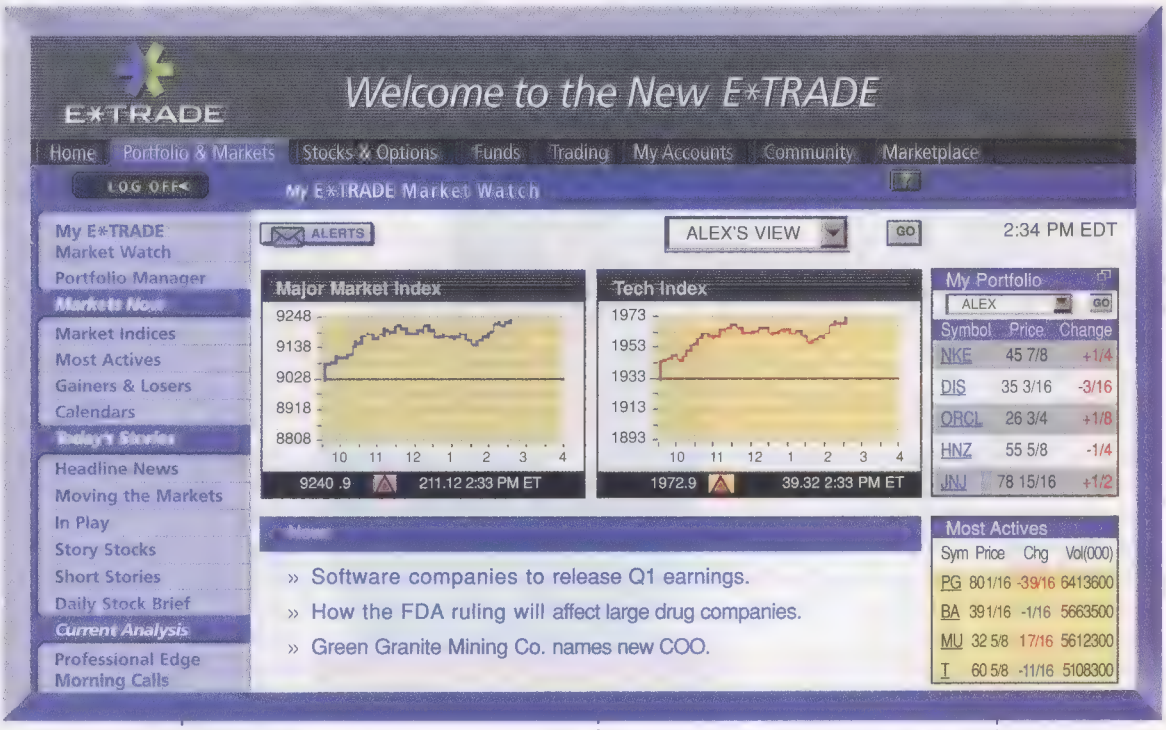

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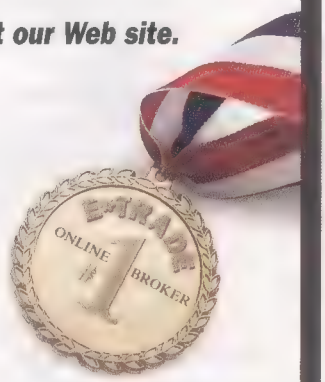

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Ripoff Artists

Picture the freaks who actually pay $16 for an audio CD from Anthrax, the Spice Girls, or Yanni. Does anyone buy CDs from artists who have taste and talent? For that matter, does anyone still buy audio CDs at all? Answer: fewer and fewer. Some 2 million people now skip the trip to Tower Records and head straight for the Internet where they download tunes within 24 hours.

Believe it or not, a few people don't abide by this honor system. And needless to say, it doesn't play well with music moguls. The Recording Industry Association of America has declared war, filing injunctions against MP3 sites as if fighting for its life. (That's because it is fighting for its life.)

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r is already lost. For te the industry sinks, a et sail. Ferreting them rinth of IRC, ICQ, Web chat rooms, and shifting FTP sites is virtually impossible.

So far, MP3 sites haven't made a noticeable dent in audio CD sales. But this is almost certain to change with high-bandwidth Internet connections and recordable CD players costing as little as $200. Like it or not, the electronic distribution of music is coming—fast—and it's going to roil the $12-billion-a-year music industry more profoundly than anything since the days when Frank Sinatra crooned in monotone at 78 rpm.

A few entrepreneurs are already cashing in. Online music retailer GoodNoise (www.goodnoise.com) sells legal MP3 files for 99 cents each. Garage bands seeking exposure are delighted to give away free music. Artist-endorsed songs now promote independent labels. Hardware maker Diamond Multimedia sells a $200 portable MP3 player that downloads an hour's worth of music onto a device no bigger than a pack of cigarettes.

Even record companies hope to weasel in on the action, albeit timidly. Sony Music, Warner Bros. Records, and PolyGram have sites that take CD orders online. Most offer audio samples—but in streaming formats that can't be stored. It's just a matter of time before these companies capitulate.

Greed Kills By opposing MP3, record companies risk a replay of the war between film studios and the VCR in the early 1980s. Not only did the studios lose control of their intellectual property, but they ceded lucrative distribution and retail channels to the likes of Blockbuster Entertainment and others. It's a pointless battle: MP3 is unstoppable. If Geffen and his ilk had any sense, they'd recognize the vast opportunities for growing the music industry with this format.

Many fans pass on a CD because they like only one or two songs. Let them cut their own CDs, purchased on a tune-by-tune basis. They'd double the amount of time they spend listening to music. It would especially attract cash-strapped kids whose lifelong music-buying patterns are usually set by the age of 19.

MP3 is a freight train. The music industry has to figure out how to jump a ride—or get flattened by it.

E-mail taylor&jerome@zd.com

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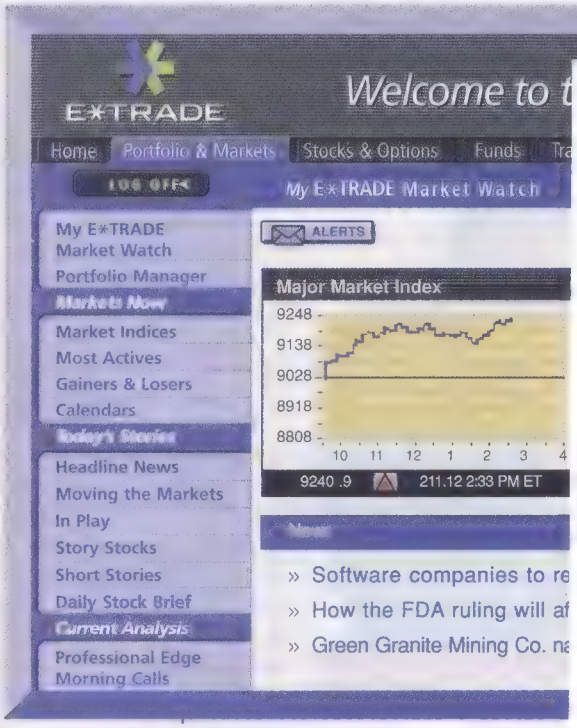

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Ripoff Artists

Picture the freaks who actually pay $16 for an audio CD from Anthrax, the Spice Girls, or Yanni. Does anyone buy CDs from artists who have taste and talent? For that matter, does anyone still buy audio CDs at all? Answer: fewer and fewer. Some 2 million people now skip the trip to Tower Records and head straight for the Internet where they download tunes for free. Virtually any pop song on the radio today can be plucked from cyberspace like a ripened fig. That's illegal, of course. But bebop bandits aren't exactly wracked with guilt. Overnight they have become revolutionary anarchists in the music biz.

Pirate's Paradise Why has tune filching become the latest Web boom? Blame MP3 (officially MPEG-1 Audio Layer 3), a compression technology that squeezes an audio file into less than one-tenth its original size. You can download an entire CD of music in less than 12 minutes over a T1 connection. And the sound quality of digital MP3 files is virtually indistinguishable from recorded CDs.

Even stooges have figured out how to post free music on their sites. And thousands now do it. Why? The top search term on many search engines: MP3. Dirty pictures are the only bigger draw in cyberspace these days. Free music is often used as bait to lure surfers into the paying parts of a site. It's also bait for advertisers—who love to buy space against good, free content (never mind that it's illegal).

Advertisers reap the benefits of this piracy while escaping inconvenient lawsuits. Many site owners who post MP3 files also skirt legal woes by offering try-and-buy sections where surfers get to download a free song with the agreement that they'll buy the CD if they like the sample. Otherwise, they must promise to delete the freebie within 24 hours.

Believe it or not, a few people don't abide by this honor system. And needless to say, it doesn't play well with music moguls. The Recording Industry Association of America has declared war, filing injunctions against MP3 sites as if fighting for its life. (That's because it is fighting for its life.)

Taylor & Jerome

PHOTOGRAPH BY DAVID PERRY

MP3 is one of the top search terms on the Web. **Dirty pictures** are the only bigger draw.

But the war is already lost. For every pirate site the industry sinks, a dozen more set sail. Ferreting them from the labyrinth of IRC, ICQ, Web chat rooms, and shifting FTP sites is virtually impossible.

So far, MP3 sites haven't made a noticeable dent in audio CD sales. But this is almost certain to change with high-bandwidth Internet connections and recordable CD players costing as little as $200. Like it or not, the electronic distribution of music is coming—fast—and it's going to roil the $12-billion-a-year music industry more profoundly than anything since the days when Frank Sinatra crooned in monotone at 78 rpm.

A few entrepreneurs are already cashing in. Online music retailer GoodNoise (www.goodnoise.com) sells legal MP3 files for 99 cents each. Garage bands seeking exposure are delighted to give away free music. Artist-endorsed songs now promote independent labels. Hardware maker Diamond Multimedia sells a $200 portable MP3 player that downloads an hour's worth of music onto a device no bigger than a pack of cigarettes.

Even record companies hope to weasel in on the action, albeit timidly. Sony Music, Warner Bros. Records, and PolyGram have sites that take CD orders online. Most offer audio samples—but in streaming formats that can't be stored. It's just a matter of time before these companies capitulate.

Greed Kills By opposing MP3, record companies risk a replay of the war between film studios and the VCR in the early 1980s. Not only did the studios lose control of their intellectual property, but they ceded lucrative distribution and retail channels to the likes of Blockbuster Entertainment and others. It's a pointless battle: MP3 is unstoppable. If Geffen and his ilk had any sense, they'd recognize the vast opportunities for growing the music industry with this format.

Many fans pass on a CD because they like only one or two songs. Let them cut their own CDs, purchased on a tune-by-tune basis. They'd double the amount of time they spend listening to music. It would especially attract cash-strapped kids whose lifelong music-buying patterns are usually set by the age of 19.

MP3 is a freight train. The music industry has to figure out how to jump a ride—or get flattened by it.

E-mail taylor&jerome@zd.com

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WinLIST *Windows Magazine*, October 1998, James E. Powell

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Flatliners

Finally the industry is beginning to realize that we are nearing the end of an era. It was marked by never-ending upgrades as processing power chased killer apps in a circle of futility. Recently the highly esteemed *Microprocessor Report* predicted the demand curve for more computing power will soon fall below the actual deliverable processing curve and stall the industry. Power-hungry killer apps are dead.

Current muckety-mucks in the business believe voice recognition is the next killer app, but they're wrong. Speech recognition doesn't work that well, and there is no evidence that it will improve anytime soon. Even if it worked and could convert a Lithuanian speech into English in real time, who'd care?

Pipe Dreams The only new apps that will drive sales don't require more processing power. These are all Internet or network related, such as home networking applications. It will be a long time before network speed catches up to the computers of five years ago, let alone newer machines. Other apps on the horizon include home video editing. This is another pipe dream. People make videos but don't want to spend the time to edit them. It's too much work. Besides, if you haven't noticed, the camcorder craze is over. People now rely on disposable cameras for their Kodak moments. Digital cameras are hip and cool, but only niche professionals need more processing power than we already have.

It would be easy to blame Microsoft. By crushing the software competition, they also crushed the creative forces needed to come up with new ideas to grow business. Microsoft has nothing left to feed on and is in a tizzy trying to move into the Internet, pocket computing, and even content. Apple's long, comatose, near-death experience didn't help Microsoft much since it was a factory of new ideas. The iMac is hardly the gateway to anything new, as pretty as it is.

But Microsoft's bad-neighbor business practices also eliminated an ugly trend that may be more responsible for the slowdown than anything else: shoddy products. David Placek of Lexicon Branding made an interesting observation. He said that brand names are more important than ever. This means consolidation and less competition from small, new, idea-laden companies. I've heard this from numerous marketing experts. Every time, I hear echoes of comments made just a few years ago that were the polar opposite: "Brand names don't mean anything anymore." Placek believes this switchback has to do with too many years of disappointment in shoddy products from no-name companies.

John C. Dvorak

Apple's **near-death** experience didn't help Microsoft much since it was a **factory of new ideas.**

Who is to blame for this new order? First, the magazines (most of which are gone) that were nothing more than boosters of any piece of crap that came along. The editors and writers of these magazines, few of whom knew anything about computers, have since scattered like lice in flea dip having already done their damage. Then there are the companies (you know who you are) that should never have been in business in the first place. Many went through a BIOS-of-the-day phase for endless years creating all sorts of hardware incompatibilities that the software people could never catch up with. Microsoft is not blameless in this category, with its crash-prone software. We won't even discuss the alleged efforts to sabotage competitors' products.

Creative Shift If the crossover point predicted by *Microprocessor Report* occurs before a new killer app appears, the industry will have to go through an extreme slowdown as the creative minds do their work. The big question is where will these few creative souls actually do their work? On desktop computers? Or will they turn their attention to the small hand-held machines, creating a new universe—a platform shift, as it were?

Microprocessor Report predicts the end of the old era, saying goodbye to the desktop machine. I sit here looking at three desktop machines networked on top of an adjacent desk hooked to flat panels and routers and the Internet. Yeah, right. It'll be a long time before we say goodbye to this old iron. There may not be any more killer apps, but we have to remember that we've gotten off the upgrade treadmill a few times before only to get back on after a brief rest. It's just another iteration of the same old cycle. I hope.

E-mail pccdvorak@zd.com

PHOTOGRAPH BY DAVID PERRY

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WEB.

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THe IT DiRECtOR is having heart palpitations in the elevator.

He hates giving speeches. In less than an hour he'll be in front of the entire IT department of the company. Rehearsing his speech in his head, he reminds himself not to forget to mention how successful the implementation of the new [1](employee self-service HR application) has been. The CEO will be there, so he also wants to point out that the [2](server consolidation program) and Y2K project are finished and, most importantly, within budget. The elevator doors open. His [3](pager) vibrates. It's an e-mail from his wife. She asks him to remember to pick up a tin of smoked eel on the way home. He bumps into the lead Webmaster in the hall who tells him that they've been able to take on new projects since they have dramatically [4](reduced the backlog) on Website change requests. He makes a mental note to say something in his speech about how well the Web team is doing. He looks down and sees, to his horror, that he's wearing two different color socks.

THE [5](BEST PARTS) OF HIS DAY WERE MADE POSSIBLE BY LOTUS.

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Infolink 285 at: www.pccomputing.com/infolink

New!

Xeon Takes Servers

Don't let the name fool you, Xeon is *not* a new antidepressant. But while it won't affect your psyche, Xeon will do wonders for your network.

Xeon is Intel's latest family of processors. Targeted at the server and workstation market, the Xeon pulls together the performance pieces missing in today's Pentium IIs—namely, support for a faster and bigger L2 cache, the ability to scale up to four CPUs, and support for 4GB to 8GB of memory. *PC Computing* lab-tested the first Xeon servers out of the gate. Yes, they're expensive. But take our word for it: Their performance is stunning.

Cache Factor The Pentium II Xeon uses the same core CPU as the Pentium II. Both come on a circuit card with the CPU and L2 cache attached. The Xeon pops into a longer, 330-contact connector slot though (current Pentium II systems use a 242-contact connector slot). This means manufacturers must come up with a new motherboard and supporting chipset for the CPU, which is one reason the Xeon represents a whole new family of processors.

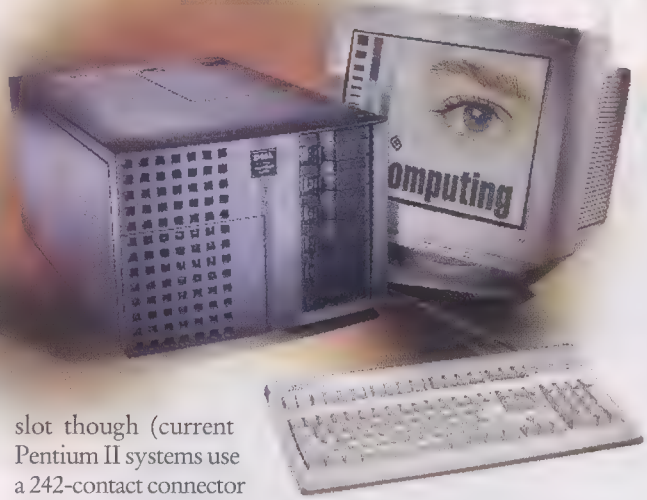
Performance is another reason. Unlike current Pentium IIs, in which the L2 cache runs at half the clock speed of the CPU, the Xeon's cache runs at the same clock speed. And the amount of the Xeon's L2 cache doesn't top out at 512K as a Pentium II's does. The first Xeons sport either 512K or 1MB of L2 cache, and 2MB versions should be shipping by the time you read this.

This big and speedy cache does magic for transaction processing, the crucial chore in churning databases and serving files. Our tests bore out the Xeon's performance bang. Under big loads—56 clients—Dell's top-of-the-line quad-chip Xeon server, the PowerEdge 6300, was 140 percent faster than Compaq's blistering-fast dual-chip Pentium II ProLiant 1600. When we leveled the playing field by disabling two of the CPUs in the PowerEdge, it still outperformed the ProLiant by nearly 35 percent.

Under lighter loads, the Xeon's advantage is less dramatic. With 12 clients, the dual-chip PowerEdge outgunned the ProLiant by about 11 percent. Given the current cost-performance payoff of the Xeon, small-workgroup servers might want to stick with the Pentium II—at least until next summer when Xeon prices are expected to drop. Besides, the Xeon has bigger ambitions. It wants to cross swords with RISC offerings in the big workgroup and enterprise server market.

Get on the Desktop In addition to servers, you'll find the Xeon in workstations. This will pit Intel boxes against proprietary hardware-software combinations from the likes of Sun, Hewlett-Packard, and IBM. But the Xeon's fate on the desktop rides largely on how quickly high-end graphics, multimedia, and scientific apps running under Windows NT will emerge. Thus far there's been less than a stampede.

To back the Xeon, Intel is introducing two new chipsets—one for servers (450NX



Dell PowerEdge 6300

★★★★★

Verdict: A showcase for Xeon-based enterprise servers.

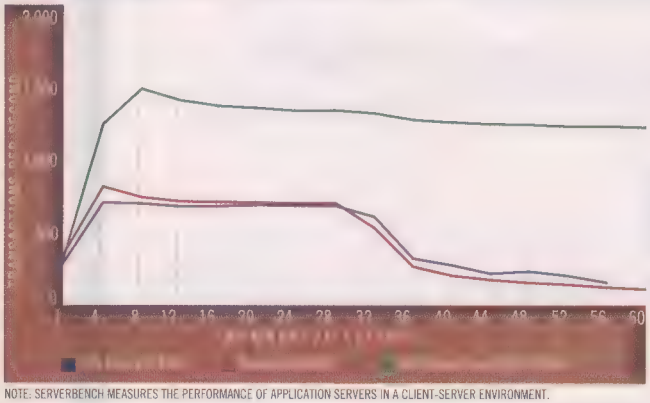
Pros: Blinding performance; superb usability.

Cons: Costs more than a Volvo.

Features As Tested: Four 400MHz Xeon CPUs, 1MB L2 cache, 1GB of RAM, six 9GB hard drives, two 4.5GB drives, dual-channel Ultra Wide SCSI RAID controller with 32MB cache, three power supplies, 14X CD-ROM drive, two 10/100 Ethernet adapters.

$31,862 direct price / Dell / (800) 388-8542 / *Enter 691 at www.pccomputing.com/infolink*

Performance: Xeon Servers



NOTE: SERVERBENCH MEASURES THE PERFORMANCE OF APPLICATION SERVERS IN A CLIENT-SERVER ENVIRONMENT.

Four Times the Fun All of our Xeons served small workgroups with ease. When the loads got heavy, Dell's quad-CPU PowerEdge 6300 sprinted ahead.

PHOTOGRAPHS BY ARNOLD TIOSEJO

Guide to PC Computing's Ratings

Excellent *Market leader that offers exceptional performance* ..... ☆☆☆☆☆

Good *Excels in many areas; a good buy* ..... ☆☆☆☆

Acceptable *Average for its class; a justifiable purchase* ..... ☆☆☆

Poor *Out-of-date or substandard; offset by some positive features* ..... ☆☆

Unacceptable *Missing necessary features; avoid* ..... ☆

by Storm

SAG Xeon LVD RAID

☆☆☆☆

Verdict: A pedal-to-the-metal server and a great value for small and medium-size workgroups.

Pros: Excellent price.

Cons: Holds only two CPUs.

Features As Tested: Two 400MHz Xeon CPUs, 512K L2 cache, 512MB of RAM, six 9GB hard drives, AMI three-channel LVD RAID controller with 16MB cache, 32X CD-ROM drive, 10/100 Ethernet.

$13,370 est. street price / SAG / (800) 989-3475 / *Enter 692 at www.pccomputing.com/infolink*

PCIset), the other for workstations (440GX AGPset)—each delivering a different price-performance payoff. Both support a 100MHz bus and USB. The 450NX server chipset comes in two flavors. A basic package supports up to four Xeon processors, 4GB of memory, two 32-bit PCI buses, and one 64-bit PCI bus. Its plusher and more expensive cousin supports twice the amount of memory and slots. The workstation-destined 440GX, on the other hand, supports only two Xeon processors.

Both chipsets have built-in cluster support, meaning you can cluster as many as eight Xeon servers via a 90MHz bridge; no extra logic required.

Wide Spread The three systems *PC Computing*'s Labs tested represent a broad swath of the server market—from Quantex's $6,900 small-workgroup box to Dell's $31,862 quad-chip enterprise factory. But they all share barn-burning performance. It behooves anyone buying a server (yes, even for small workgroups) to consider the Xeon before inking a purchase order.

Dell's PowerEdge 6300 is an excellent example of a first-class, enterprise-level Xeon. It's the highest of the high-end offerings in the company's prodigious lineup. Backed by the extended 450NX chipset, the unit we looked at housed four CPUs and boasted three (hot-pluggable) power supplies and the ability to seat up to 108GB of storage (in six hot-pluggable drive bays). It even featured Dell's dual-channel Ultra Wide SCSI RAID controller, which boasts its own 32MB cache.

The machine's design and usability are first-rate. Loosen its thumb screws, slide off the cover, and you're greeted with a map of its innards and an overview of jumper settings. The motherboard is caged, making it easy to slide out as needed. PCI cards can be swapped without shutting down the server. And leave your screwdriver behind; they're held in place by plastic retainers. You simply won't find better performance or design. If four Xeons is overkill, Dell can configure single- and dual-processor PowerEdge 6300s to meet your network needs.

Entry-Level Xeon SAG's dual-chip Xeon LVD RAID is a great value at $13,370. The configuration we tested comes with 512MB of memory, six 9GB drives (10 bays total), AMI's three-channel LVD RAID controller with 16MB cache, Ethernet, and a 32-speed CD-ROM drive. The machine held its own even when loads reached 32 clients. Since it's backed by Intel's 440GX chipset, it runs only two CPUs. Still, the server's dollar value is hard to beat.

The same is true of the Quantex QX6000, which mirrored the SAG Xeon LVD RAID in performance. This isn't surprising since they both have 512K of L2 cache and 16MB of memory on their controllers. The Quantex QX6000 uses the 450NX chipset though, which means you can add CPUs as your needs grow. There are dual power supplies, and its six 9GB drives, like everything else, are hot-swappable.

All three of these systems demonstrate what an adaptable server solution the Xeon provides. Its scalable design and chipsets mean you won't have any trouble building a configuration to suit your needs. And with its power, the Xeon is sure to be a boon to workgroups of all sizes.

MARTY JEROME

Quantex QX6000

☆☆☆

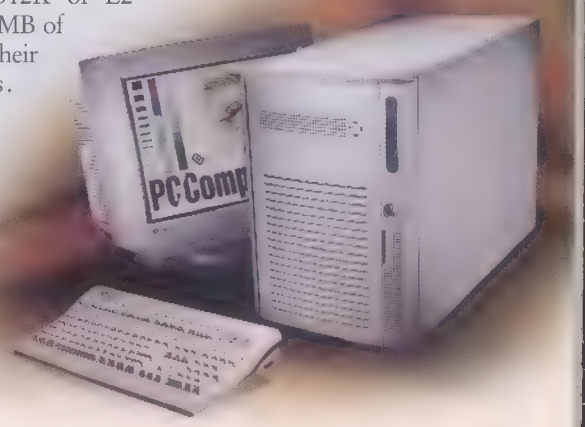
Verdict: A solid performer for a small but busy workgroup.

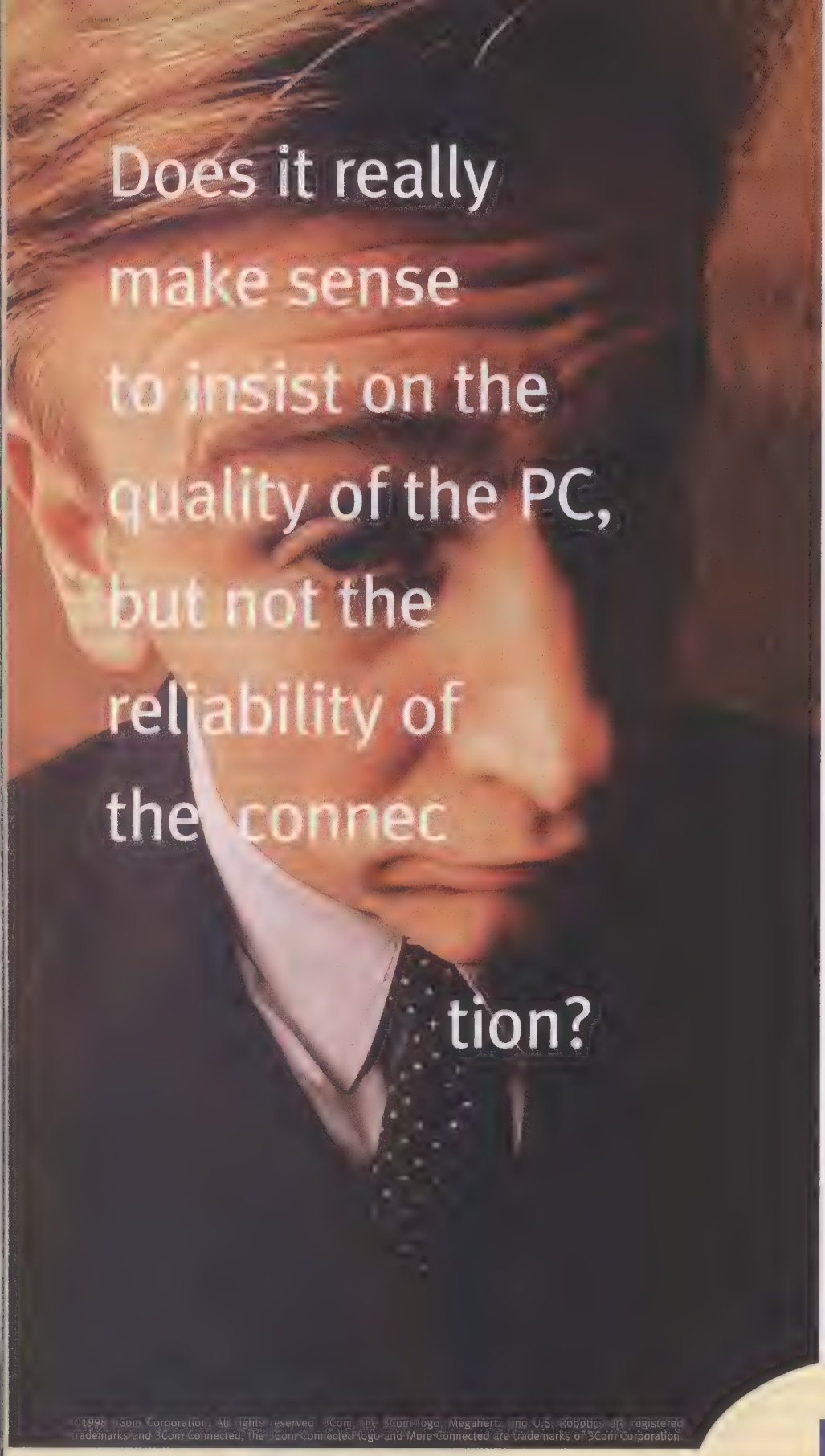
Pros: Plush configuration; can take four CPUs.

Cons: Performance drops off when the load gets heavy.

Features As Tested: Two 400MHz Xeon CPUs, 512K L2 cache, 1GB of RAM, six 9GB hard drives, Symbios Logic LVD-SE (Ultra 2) SCSI controller with 16MB cache, 32X CD-ROM drive, 10/100 Ethernet.

Starts at $6,900 est. street price / Quantex / (800) 787-8686 / *Enter 693 at www.pccomputing.com/infolink*





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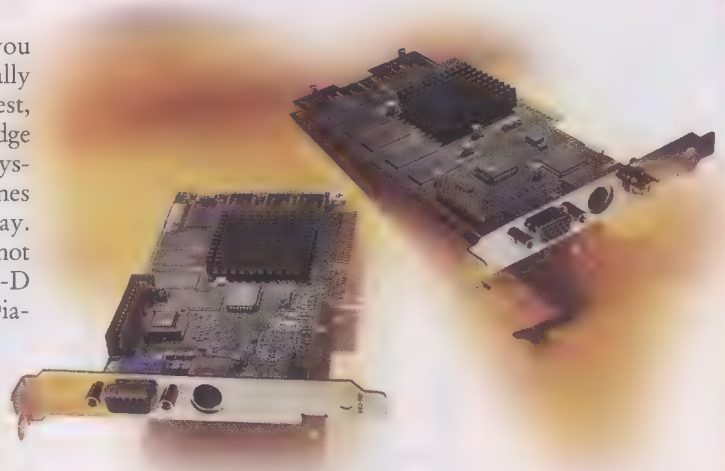
A Blast of 3-D Speed

SNEAK PREVIEW

Every time you think you finally have the hottest, most cutting-edge hardware powering your system, something new comes along that blows you away. We'd like to tell you that's not the case with the new 3-D graphics boards from Diamond Multimedia and STB Systems and save you the trouble of upgrading. But we'd be lying.

Truth is, the new nVidia Riva TNT chip that each of these boards uses is an extraordinary graphics engine bringing unprecedented power to 3-D games and apps.



High Wow Factor Realistic 3-D detail or breakneck game speed? Both! Diamond's Viper V550 (left) and STB's Velocity 4400 use the nVidia Riva TNT graphics chip, which offers unbelievable 3-D images and speed.

Graphics Explosion Diamond's new Viper V550 board and STB's Velocity 4400 each sport 16MB of SDRAM and a 250MHz RAMDAC. Most notably, however, these are the first 3-D cards built around the much-anticipated nVidia Riva TNT chip. The 128-bit chip processes two pixels per clock cycle, which means that these boards do single-pass multitexturing of 3-D images. The result is more detailed graphics at faster speeds than ever. You no longer have to choose between high-resolution 3-D and game speed—you can have both. The Viper V550 and the Velocity 4400 run today's hottest 3-D games at 1,024 by 768 resolutions and higher, with perfectly acceptable frame rates. We were even able to play Quake II at 1,600 by 1,200. Both are also optimized for Microsoft's DirectX 6.0, due out this fall.

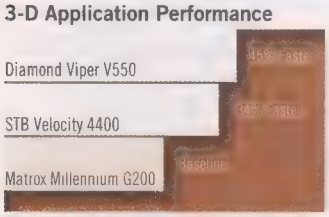
And these boards are fast. In our 3-D WinBench tests they made the current frontrunners in the graphics world look like snails on sedatives. Both boards passed Matrox's impressive Millennium G200 as if it was standing still. The Viper V550 even outpaced a Voodoo2 board, Canopus's venerable Total3D. In other words, the 3-D performance you get from these new boards is amazing, with realistic detail, lighting, and smoothness to boot.

Close Call Diamond's $199 Viper V550 is the faster of the two TNT boards by a nose. STB's board is also priced at $199, and the company promises to include a healthy game bundle that hadn't been announced at press time. The Viper includes a special version of Motorhead and a Microsoft game sampler, but not much else. Both boards have video-out ports, and the AGP version of the Viper includes software DVD support.

While today's games don't take full advantage of the AGP bus, all 16MB of RAM, or features like anisotropic filtering, it won't be long before a new generation of games does. So if you want your games to look their best today and to have a close eye on tomorrow, a Riva TNT board is a wise investment. If you want to complement your speedy new board with a healthy game bundle, go with STB's Velocity 4400. But if you're looking for top speed and features over software, go with Diamond's Viper V550. Either way, you're in for a fun ride.

JULIE POLITO

Record Breakers
3-D Application Performance



NOTE: 3D WINBENCH 98 IS A TEST THAT MEASURES THE PERFORMANCE AND FEATURES OF A PC'S 3-D SUBSYSTEM UNDER WINDOWS ®. ALL TESTS WERE PERFORMED ON A DELL DIMENSION XPS D333.

Maximum Velocity Both the Viper V550 and the Velocity 4400 shatter the Matrox Millennium G200's 3-D WinBench score.

FILEBOX

Diamond Viper V550

☆☆☆☆☆

Verdict: 3-D so real you can almost touch it.

Pros: Beautiful images; breakneck speed.

Cons: Small game bundle.

Features As Tested: 128-bit nVidia Riva TNT chip, 16MB of SDRAM, 250MHz RAMDAC, video-out port, AGP and PCI versions.

$199 est. street price
Diamond Multimedia
(800) 468-5846, (408) 325-7000
Enter 694 at
www.pccomputing.com/infolink

STB Velocity 4400

☆☆☆☆

Verdict: Killer 3-D speed and the games to show it off.

Pros: Generous game bundle; great speed.

Cons: Slightly slower than Diamond's board.

Features As Tested: 128-bit nVidia Riva TNT chip, 16MB of SDRAM, 250MHz RAMDAC, video-out port, AGP and PCI versions.

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RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

Do-It-All Digital Video Editor

Imagine falling asleep at your own wedding. Impossible? Not when you're watching a mind-numbing video of your nuptial ceremonies. Face it: Home videos are by definition long, boring, and poorly shot, focusing on liver spots and the backs of bald heads as often as on the bride and groom. Pinnacle Systems' Studio 400, a combination video-capture card and video-editing software product, does everyone a favor: It lets moviemakers edit their camcorder creations digitally on a PC, keeping only the best footage for the final cut.

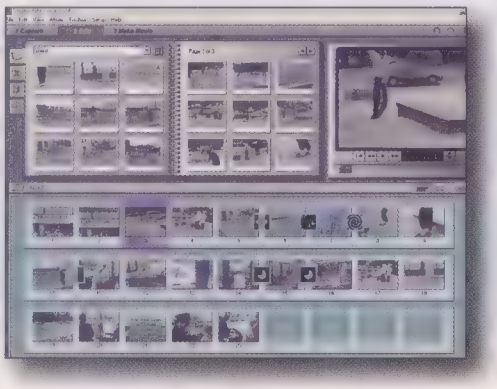
Magic Box Connect the Studio 400's purple StudioMixer (pictured above) to your PC, camcorder, and VCR, and you're ready to digitize and edit your home videos.

The $229 package isn't just for weddings and birthday bashes either. Anything from a marketing tape to a music video can benefit from an editing session with Studio 400. And if you need to create digital video clips for a Web site, Studio 400 makes the task quick and easy.

Cable Connections But before you begin editing, you'll need to round up a large collection of cables. Studio 400 doesn't include half of the requisite cables, so plan on a trip to the electronics store. Then the fun begins: Connect your VCR (which must include a remote control) and camcorder to your PC and to Pinnacle Systems' Studio Mixer, a purple plastic paperback-size device. This can be a confusing and frustrating ordeal, so take advantage of Pinnacle Systems' great online tutorial (included on CD-ROM), which significantly eases the setup process—and teaches you the basics of nonlinear video editing.

Assembling a montage with Studio 400 is a simple drag-and-drop affair. The software reads your camcorder's tape, cleverly distinguishing the gaps between each scene, and then displays the first frame of each scene as a thumbnail image. To edit, simply drag the thumbnail of any scene you like onto the object resembling a filmstrip. Trim any scene with a click of your mouse, while a preview window displays each change you make, so you're always aware of how your final video will look. You'll need 150MB of hard disk space to edit an hour's worth of video, but compared with the usual gigabyte-size requirements of digital video editing, that isn't much at all.

Scene Stealer Making movies with Pinnacle Systems' Studio 400 is simple. Each thumbnail represents a scene; just drag the scenes you want to the filmstrip at the bottom.



Fade to Black In addition to trimming the fat from your home movies, Studio 400 lets you add Hollywood flourishes. The software includes a well-stocked library of cool transitions, including dissolves and wipes. Drag one of these effects in between two scene thumbnails in your filmstrip, and you've got a funky transition. It's that easy.

You can also add music from your favorite audio CDs to the background, or speak into a microphone to record voice overlays. Perfecting these effects proves a little more difficult and involves tinkering with some nonintuitive dialog boxes. And though you can add a text title to your film, we didn't see any easy way to create scrolling credits. Studio 400 could benefit from some hand-holding wizards.

Once you've edited your movie, just click on the Make Movie button. Then sit back while your camcorder queues up and plays the selected scenes and your VCR records them. Our final video looked sharp, but some of the cuts between scenes weren't as seamless as they appeared in preview mode. You can also save your movie as a digital AVI file, so you can slap it on your Web site or e-mail it to friends.

Pinnacle Systems' Studio 400 is not as sophisticated as higher-end digital video-editing solutions like Adobe Premiere. But if you're looking for a handy, all-in-one package to digitize and edit camcorder movies, Studio 400 is an outstanding value. ALEXEI ORESKOVIC

FILEBOX

Pinnacle Studio 400

★★★★☆

Verdict: An easy and inexpensive way to edit camcorder movies on your PC.

Pros: Effortless nonlinear video editing; saves video clips as AVI files.

Cons: Doesn't include all the cables you need.

System Requirements: Pentium CPU; Windows 95; 16MB of RAM; 30MB of hard disk space to install software (150MB to edit a one-hour video); camcorder with LANC, Panasonic 5-Pin, Control L, or Control M jack, or with remote control; VCR with remote control or Sony VCR with Control-S jack.

$229 est. street price
Pinnacle Systems
(888) 484-3366, (650) 526-1600
Enter 696 at www.pccomputing.com/infolink

RATINGS: ★★★★★ EXCELLENT ★★★★ GOOD ★★★ ACCEPTABLE ★★ POOR ★ UNACCEPTABLE

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TOTAL COST: $127,000.

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The HP PhotoSmart photo scanner & photo printer let you print amazingly crisp, clear pictures at home. No waiting in line or wondering if the clerk will reprint frame 24 instead of 24A. To start, the 30-bit scanner happily scans slides or negatives at 2400 dpi and photos at 300 dpi. It then zips them into your PC where you can repair old photos, add text or special effects, even remove that mildly unnerving red eye. Next, at the push of a button, the printer produces sharp, vibrant images that look and feel like real photos. Speaking of which, the HP PhotoSmart system can handle a variety of paper sizes and finishes, and produces enlargements and reprints in just minutes. You also get Microsoft® Picture It!™ photo-enhancing software. As well as a terrific break on price: the scanner is just **$299** and the printer **$199** after our mail-in rebate.* Real photos at home without having to take out a second mortgage. The HP PhotoSmart system. Get the picture.

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Receive: A $100 rebate for printer and/or $100 rebate for scanner.

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Double Your Modem Speed

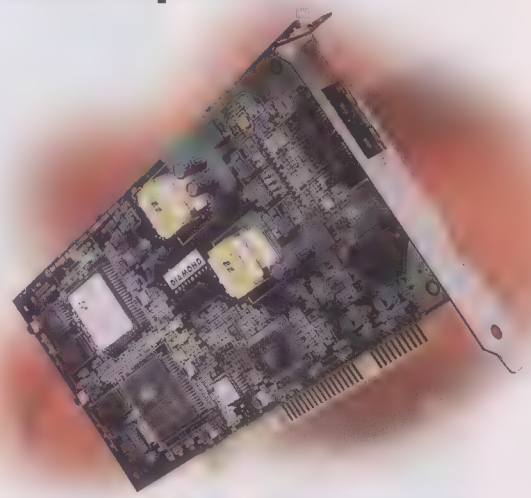
Everybody wants faster Net access. Diamond Multimedia's new dual-line modem, the SupraSonic II, offers a practical way to boost your bandwidth.

For $149, the SupraSonic II joins two ordinary telephone lines and boosts your bandwidth to 112Kbps. The catch? The SupraSonic II uses Diamond's proprietary Shotgun modem technology, so your ISP must support Shotgun on its end. Also, your ISP might charge you for two accounts—so buyer beware.

Installing the SupraSonic II on a Windows 95 system was a tedious affair involving numerous reboots and some manual configuration within Windows Dial-Up Networking.

When we finally got the SupraSonic II up and running, we connected to a special Netcom test account and enjoyed connections that averaged 105Kbps—about twice as fast as a V.90 modem and competitive with ISDN. Web browsing was snappy and responsive, and we never lost a connection.

Despite some setup hurdles, the SupraSonic II is a smart way to surf faster. If your ISP doesn't support Shotgun, this modem might make it worthwhile for you to switch to one that does. RICH SCHWERIN



Internet Boost Diamond Multimedia's $149 SupraSonic II uses the company's Shotgun technology to make two analog phone lines deliver up to 112Kbps.

FILEBOX

Diamond SupraSonic II

☆☆☆☆

Verdict: Who needs ISDN? Combine two regular phone lines for up to 112Kbps Net access.

Pros: ISDN performance without its cost and hassle; lets you take phone calls while connected.

Cons: Annoying installation hurdles; requires an ISP that supports Shotgun technology.

$149 est. street price, plus ISP charges
Diamond Multimedia
(800) 468-5846, (408) 325-7000
Enter 704 at
www.pccomputing.com/infolink

WebGear Aviator Wireless Networking Kit

Wireless Networking Comes Home

Rest easy, Martha Stewart. A home computer network is no longer a threat to interior design. WebGear's $169 Aviator Wireless Networking Kit lets you install a home network without the cable clutter.

The Aviator kit offers all the benefits of a traditional wired LAN. You can share files and system resources across as many as 32 PCs. More important, your PCs can share a single printer, scanner, and phone line.

It's a snap to set up your network. Just plug the RF transceivers into your PCs' parallel ports, and run the software.

The transmission range is about 75 feet through walls, floors, and ceilings. Data transfer rates are only 300Kbps to 500Kbps (compared with 10Mbps to 100Mbps for wired networks), but we didn't notice any lag on a two-person network.

Another consideration: The Aviator kit broadcasts at the Federal Communication Commission's unlicensed 900MHz band. This could result in interference from cordless phones and other 900MHz devices.

We expect to see faster and cheaper networks of this kind in the future, but for now the Aviator Wireless Network Kit is a solid, simple way to connect your home. MARTIN SARGENT

Cut the Cord Banish the Medusa's head of wires writhing through your breakfast nook with WebGear's $169 Aviator.

FILEBOX

Aviator Wireless Networking Kit

☆☆☆☆

Verdict: A cable-free way to network your home PCs.

Pros: No wires; easy setup.

Cons: Interference from some radio-frequency devices.

$169 est. street price ($50 rebate through November 31)
WebGear
(408) 271-9888
Enter 705 at
www.pccomputing.com/infolink

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

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"I need more outlets for peripherals."

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The Challenge

Surge suppression is vital to the health of your electronic equipment. The SurgeStation™, APC's latest offering, accepts the challenge issued by APC customers to incorporate several "dream features" while maintaining the key elements and high-performance that make SurgeArrest® one of the best selling surge suppressors in the world.

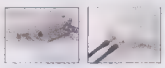
Not all surge protectors are alike

Life presents many risks, most people seek out the best insurance to reduce the threat of these risks, so why would you trust the protection of your PC to some outlet strip? APC is the world leader in power protection; we provide you with premium, reliable surge protection, and the peace of mind that comes from knowing you have the best protection.

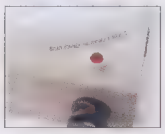
All the Features You Wanted

SurgeStation products now include: Eight outlets – three spaced to handle transformer blocks easily, a new building wiring-fault indicator, a right-angle plug to maximize your work space, and a switch large enough to be pressed on with your foot, but recessed enough to prevent accidental turn-off.

Whether you need basic protection, or the best protection money can buy, APC has a SurgeStation to meet your needs. Each SurgeStation model offers the best protection from lightning strikes and everyday power surges that can cause hardware damage and data loss. Every model carries a lifetime equipment protection policy; if connected equipment is ever damaged by a surge or lightning strike, APC will replace up to $25,000* worth of that equipment. With power problems virtually guaranteed to damage unprotected electronics, you won't find a better protection value.

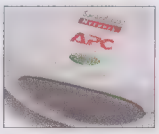


SurgeStation also comes in models with built-in telephone and built-in cable and telephone protection.



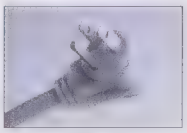
Building/Site Wiring Fault Indicator

SurgeStation is equipped with a Building/Site Wiring Fault LED that identifies dangerous wiring problems before you plug in your equipment.



Protection Working Indicator

*A Protection Working LED warns you if SurgeStation circuitry is ever damaged. APC will then replace the damaged SurgeStation for free under its lifetime warranty.**



Right-angle Plug

SurgeStation's space-saving plug design allows the cord to be flat against the wall.

8 Outlet Floor Models

Eight outlets on SurgeStation floor models provide ample space for equipment plugs with transformer blocks.

For Home Office/Small Office Applications

The SurgeStation series offers premium protection for small business/home office computers, high-performance stereo and video equipment, laser printers, and modems.

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Infolink 186 at: www.pccomputing.com/infolink

Instant Small-Office Network

Setting up a small-office network doesn't have to cost a fortune. Perfect for small businesses and home offices, the $149 NetGear 100Mbps Network Starter Kit includes two 10/100Mbps network interface cards, a four-port 100Mbps hub, two 25-foot cables, and drivers for a variety of operating systems. The kit even comes with mounting hardware for the hub so you can get it off your desk and out of the way.

And the Network Starter Kit is incredibly easy to install. Even if you've never installed a network before, you can get one rolling in 45 minutes tops with this kit. That includes installing the hardware, enabling Windows 95 file sharing, and connecting a printer to your network, all of which is detailed in two handy brochures. Keep your Windows 95 CD-ROM close at hand, though. You may need it when loading those pesky drivers—we did.

Though all the kit's contents are top-notch, we especially liked the sturdy, well-designed hub. The front-facing LEDs, which are great for troubleshooting, are a nice touch. One minor complaint: The hub is strictly 100Mbps, which is cause for concern if you have 10Mbps cards in machines or devices you want to attach to the network. But if your aim is to launch a quick little network at a low cost, the Network Starter Kit won't let you down. SARAH ROBERTS-WITT

Almost Too Easy Network the entire office on your lunch break with NetGear's $149 100Mbps Network Starter Kit.

FILEBOX

NetGear 100Mbps Network Starter Kit

☆☆☆☆

Verdict: Everything you need to set up a fast small-office network—in under an hour.

Pros: Easy installation; extremely affordable; well-designed hub; long cables; great installation and Windows 95 networking documentation.

Cons: 100Mbps-only hub; no documentation for setting up a network using operating systems other than Windows 95.

System Requirements: 486 CPU, 8MB of RAM, one free PCI slot.

$149 est. street price
NetGear
(888) 638-4327
Enter 706 at
www.pccomputing.com/infolink

Olympus D1000 Digital Voice Recorder with ViaVoice Transcription

Take a Memo—Anywhere

The day you got your own assistant, you vowed you'd never type again. But you couldn't bring your assistant on every road trip. Until now.

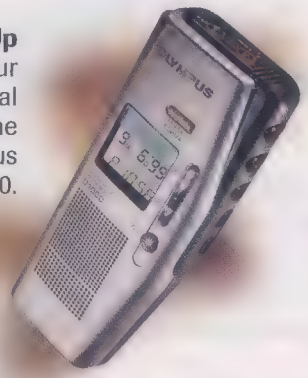
The Olympus D1000 Digital Voice Recorder is always on call to take dictation, letting you draft documents by simply saying them out loud. Your flashes of inspiration are saved on flash memory cards—a 4MB card holds 70 minutes of continuous-speech dictation.

Once you record your report, download it to your notebook via the included PC Card (desktop PCs will need a card reader). Converting the sound file to a text document takes just minutes with the included ViaVoice Transcription software, a customized version of IBM's ViaVoice Gold.

It takes half an hour to train ViaVoice Transcription; after that you continue to improve its accuracy by making corrections in dictated documents.

The Digital Voice Recorder is easy to use, and cuing to the right spot in a recording is instant since it's digital—though the sound quality won't knock you out. You can also use the Digital Voice Recorder as a line-in device to your PC, but we suggest getting a noise-canceling headset microphone for dictation—you'll get crisper sound and, consequently, a better transcription of your words to text.

LESLIE AYERS



Speak Up Record your voice in digital bits with the Olympus D1000.

FILEBOX

Olympus D1000 Digital Voice Recorder with ViaVoice Transcription

☆☆☆☆

Verdict: A sleek, pocket-size digital voice recorder for the office or the road.

Pros: Digital recordings mean easy cuing; quick conversion from sound file to text file.

Cons: Average sound quality; ViaVoice Transcription doesn't offer all the features of full version.

$299 est. street price
Olympus America
(800) 622-6372, (516) 844-5000
Enter 707 at
www.pccomputing.com/infolink

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

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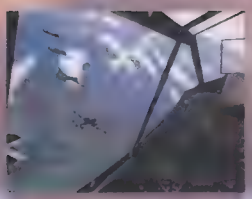
With the same stunningly realistic flying experience Flight Simulator is known for, only this time it's the 1940's and there's a war on. Join the Allied or Axis forces, choose your fighter, and fly missions in the Battle of Britain and the Battle over Europe.

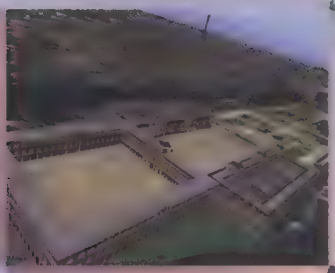
But don't expect a sight-seeing trip. Sure, the Eiffel Tower, Royal Albert Hall and other historically accurate landmarks are there in heart-stopping 3-D graphics. Unfortunately, with black smoke pouring through the shattered cockpit of your P-47D you won't see much.

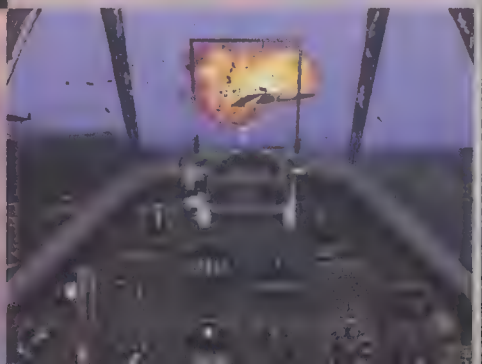
And if that isn't thrilling enough, bring in thousands of planes from the Internet and engage in deadly dogfights over scenery imported from Microsoft Flight Simulator.

That's not all. Combat Flight Simulator also supports multiplayer and force feedback technology.

So when you pull G's attacking the enemy, and the engine of your Spitfire cuts out, you'll know just how it feels. Collect your orders and find out how Microsoft Flight Simulator owners can get a $10 rebate at www.microsoft.com/games/combatfs







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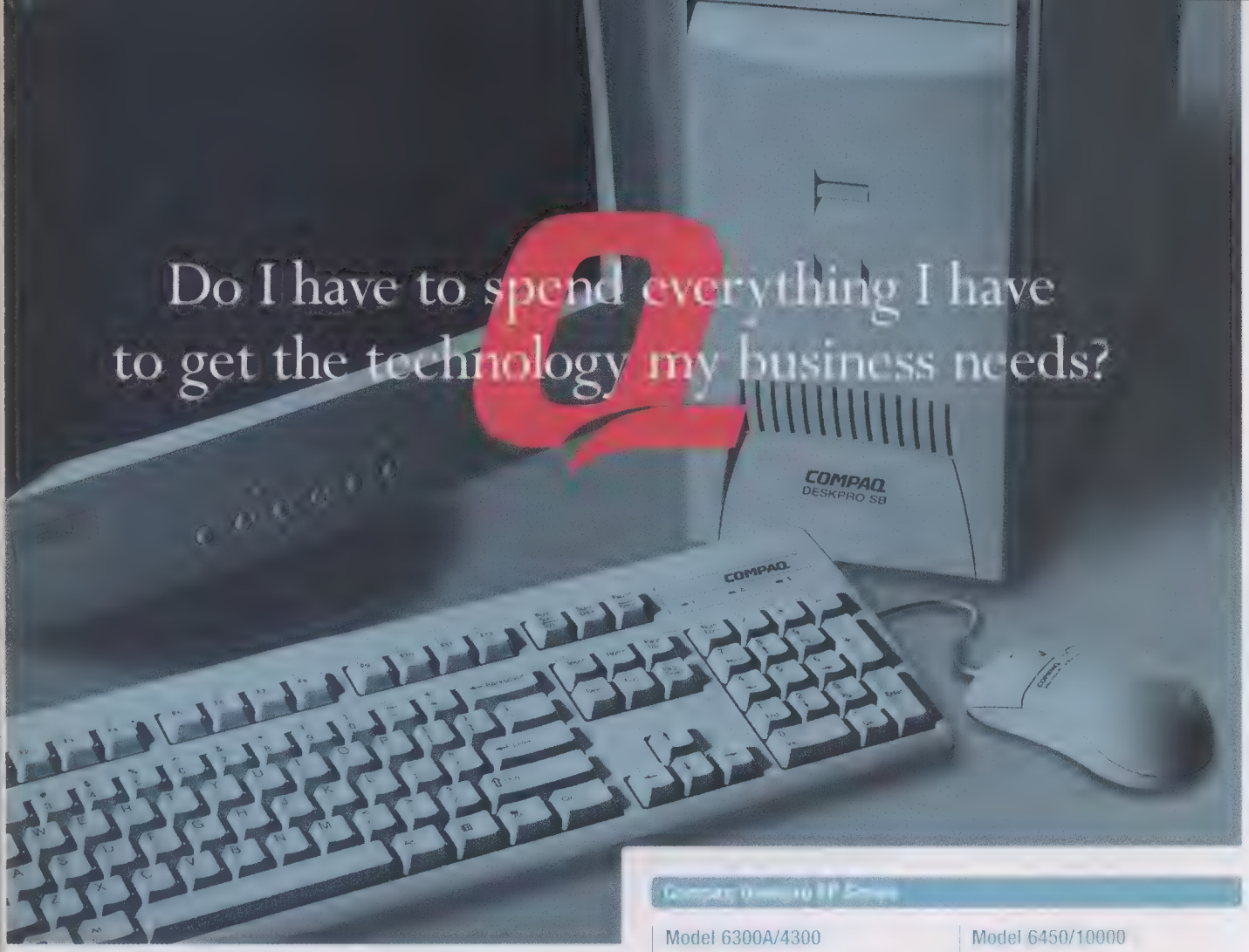

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Model 6300A/4300

$1,259*

Leasing price: $42/Month[1]

- Intel Celeron™ Processor 300A MHz
- 4.3 GB[2] SMART II Hard Drive
- 32 MB SDRAM
- Compaq S700 17" (15.7" viewable) monitor
- Matrox MGA AGP Graphics
- Towerable chassis converts from desktop to minitower
- 3-year limited warranty[7]

Model 6450/10000

$2,239*

Leasing price: $77/Month[1]

- Intel Pentium II Processor 450 MHz
- 10 GB[2] SMART II Hard Drive
- 64 MB SDRAM
- Compaq S700 17" (15.7" viewable) monitor
- Matrox Millennium AGP Graphics with 8 MB VRAM
- 32X Max[3] CD-ROM
- Towerable chassis converts from desktop to minitower
- 3-year limited warranty[7]

intel inside pentium® II PROCESSOR

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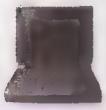


Compaq Armada Notebooks

Armada 1573

$1,599*

Leasing price: $54/Month[1]

- Mobile Intel Pentium Processor with MMX™ Technology 233 MHz
- 3.2 GB[2] SMART Hard Drive
- 32 MB RAM (expandable to 96 MB)
- 12.1" CSTN SVGA display
- 20X Max[3] CD-ROM
- K56flex modem[4]
- Integrated AC Adapter
- Li-Ion battery
- 1-year limited warranty[7]

Armada 1700

$2,999*

Leasing price: $101/Month[1]

- Mobile Intel Pentium II Processor 266 MHz
- 4.0 GB[2] SMART Hard Drive
- 32 MB SDRAM (expandable to 160 MB)
- 13.3" CTFT (1024 x 768) display
- 24X Max[3] CD-ROM, optional DVD
- K56flex modem[4]
- Integrated AC Adapter
- Multibay design
- 1-year limited warranty[7]

Armada 3500

$3,299*

Leasing price: $111/month[1]

- Mobile Intel Pentium II Processor 266 MHz
- 4.1 GB[2] SMART Hard Drive
- 32 MB RAM (expandable to 160 MB)
- 12.1" CTFT SVGA display
- 512 KB L2 Cache
- Optional CD-ROM or DVD via Mobile Expansion Unit
- 4.4 lbs. and 1.3" thin
- Magnesium display for durability
- 3-year limited warranty[7]

Options

Armada 1573:

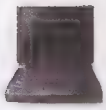
- Convenience Base (pass-through): **$189***
- Additional Li-Ion battery: **$189***

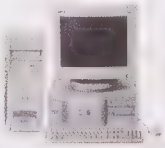
Armada 1700:

- Compaq Value Case: **$49***
- 32 MB Memory Module: **$95***

Armada 3500:

- Mobile Expansion Unit 24X Max[3] CD: **$199***
- Mobile Expansion Unit with DVD: **$399***
- Additional Li-Ion battery: **$209***





Compaq Small Business Solutions

Armada SB

$2,499*

Leasing price: $84/Month[1]

Intel Pentium Processor with
Technology 233 MHz
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GA display
dem[4], 24X
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Leasing price: $57/Month[1]

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- S700 Color Monitor
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- 24X Max[3] CD-ROM
- 56K Data/Fax modem[4]

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$4,719*

Leasing price: $157/Month[1]

- Intel Pentium II Processor 300 MHz
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- 4/8 GB SLR enterprise-class tape drive
- Microsoft BackOffice®[5]
- Insight Agent Events Notification Tool detects potential server issues
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Deskpro EP Series:

- Additional 32 MB SDRAM Memory: **$99***
- Upgrade to Compaq 19" monitor: **$220***
- SuperDisk LS-120 Drive: **$119***
- Compaq C-Series 810 Handheld: **$499***

Armada SB:

- Armada 1700/3500 Convenience Base (pass-through): **$189***
- Additional Li-Ion battery: **$195***

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- 512KB Cache, Upgradeable to 2 CPUs
- 128MB SDRAM Expandable to 2GB
- Slots: (6) PCI, (1) ISA, (1) AGP

Integrated:
- Sound & Ethernet 10/100 by Intel
- #9 Revolution 4 32MB AGP
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- Sony 32x CD-ROM; Keyboard, Floppy, Mouse
- Adaptec RAID 0 Controller
- Tower Case 300 Watts

$3907

Accel Graphics GMX 2000 96GB Solution $6315

POWER STATION
- 1 Intel Pentium II 450Mhz Processor
- 512KB Cache, Upgradeable to 2 CPUs
- 64MB SDRAM
- Slots: (4) PCI, (3) ISA, (1) AGP BX Chipset
- IBM 14GB 7200 RPM IDE Drive
- Sony 32x CD-ROM
- #9 Revolution 4 32MB AGP Video
- Keyboard, Floppy, Mouse
- Mid-Tower Chassis

$2040

9GB LVD 10,000RPM ST39102LW (5.0ms) Solution $2675

- 1 Intel Pentium II 35...
- 512K...

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...oard, Floppy, Mouse
...Mid-Tower Chassis
...399

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...egrated 16 bit Sound & Speakers
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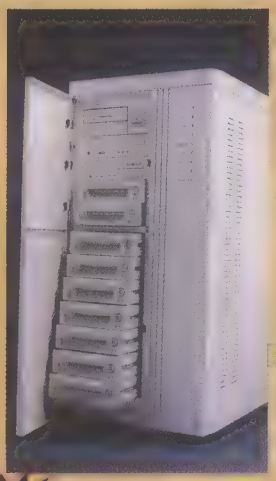

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- Q:(2) Intel Xeon 400Mhz Processor
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- Integrated 2MB Video
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- Matrox G200 8MB AGP
- 3 Channel LVD Raid 5 Controller w/ 32MB Cache
- Q:(3) 9GB 10,000RPM LVD (5.0ms) Remov. HD
- Sony 32x CD-ROM; Keyboard, Floppy, Mouse
- 13 Bay Tower Chassis 400 Watt Redundant Power Supplies

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- 1 Intel Pentium II 450Mhz Processor
- 512KB Cache, Upgradeable to 2 CPUs
- 128MB SDRAM Memory, Expandable to 2GB
- Slots: (6) PCI, (1) ISA, (1) AGP
- Integrated Dual LVD Controllers
- Upgradeable LVD RAID Port
- 9GB 10,000 RPM LVD HD
- System Management on Board
- 8MB AGP Video
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- 2 Channel RAID U2 Controller
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- 2-300 Watt N+1 Red. Power Supplies
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  - Power Supply Status
  - Cooling Fan Status
  - Visual and Audible Alarm

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- Q: (3) 9GB 7200RPM LVD HD: $6466

27GB Solution
- Q: (3) [illegible] 10,000RPM (5.0ms) LVD HD: $7098

54GB Solution
- Q: (3) 18GB 10,000RPM LVD HD: $8751

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- Active/Active Controllers
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  - Internal Temperature Status
  - Power Supply Status
  - Cooling Fan Status
  - Visual and Audible Alarm

72GB Solution
- Q: (8) 9.1GB 7200RPM LVD HD: $19,256

72GB Solution
- Q: (8) 9GB 10,000RPM (5.0ms) LVD HD: $20,981

144GB Solution
- Q: (8) 18GB 10,000RPM LVD HD: $25,498

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Get Richer Quicker

SNEAK PREVIEW

Feeling lost trying to manage your personal finances? It's no secret that Intuit's Quicken has always been a great way to see where your money is coming from, where it's going, and where you stand financially. But the latest version ups the ante even further. Quicken Deluxe 99 is completely Web-connected to show you where you could be and how to get there so you'll never feel lost again.

Know-It-All So just how much Web data does Quicken Deluxe 99 give you? There must be terabytes: investment advice, low-interest credit cards, mortgage refinancing opportunities, not to mention stocks, bonds, mutual funds, and other rich financial content for the taking—and nary a get-rich-quick scheme in sight. But you need a way to find it, a place to keep it, and, of course, tools to analyze it all.

Quicken Deluxe 99's financial analysis and planning tools far exceed those in Microsoft Money 99. The biggest additions to this upgrade are integrated Web links that reduce your keystrokes and give you greater freedom to manipulate your financial information.

In Quicken Deluxe 99, Intuit borrows a Microsoft Money innovation and brings together your account balances, investment portfolio status, retirement savings progress, and the many other elements of your financial situation into one convenient location: your Quicken Home Page. Sure, Money 99 has the same feature, but characteristically the Quicken 99 Home Page is a far more complete and flexible one-stop financial information center.

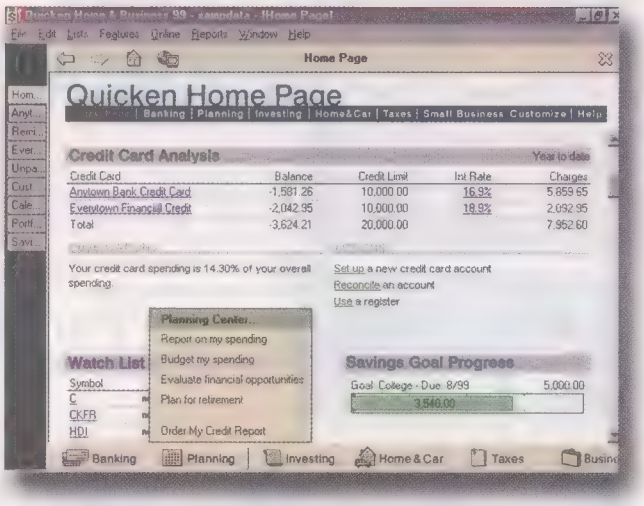
For starters, Quicken 99 makes more efficient use of screen real estate, so you can see more information at the same time without scrolling. Plus, you can choose from among almost three dozen elements for your page, customize them in ways Money 99 doesn't permit, and display them in precisely the order you like. Quicken's new PIN Vault feature lets you simultaneously upload all your bills and download your bank and investment account data from a number of different institutions, even while you're grabbing new stock prices.

Expense Me Quicken Deluxe 99 also lets you post your expenses while on the road to your own password-protected page on Intuit's popular Quicken.com Web site and download the data to your Quicken 99 registers when you return. In addition, you can keep your investment portfolio there and check its contents securely from anywhere you have Web access.

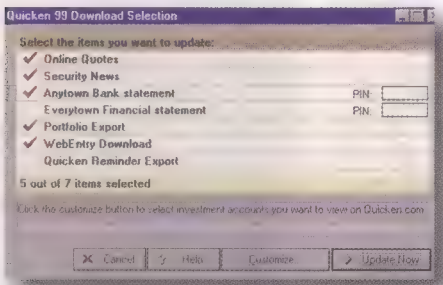
Besides Deluxe, there are a few different flavors of Quicken 99. Small-business owners, for example, are better off with the $90 Quicken Home & Business 99, which includes a wider array of business reports, an improved tool for tracking invoices, and new support for tracking accounts payable to vendors and partners.

For current Quicken users, any version of Quicken 99 is worth the upgrade price and quickly pays for itself. And for first-time personal-finance product buyers, Quicken is definitely the way to go. Current Microsoft Money users, however, can sit tight; Quicken and Money are close enough that it's not worth the time to switch.

MIKE HOGAN



In Your Interest Intuit's $60 Quicken Deluxe 99 leverages information on the Web to help you plan all aspects of your finances—from refinancing a mortgage to shopping for low-interest credit cards.



Hidden Vault Quicken 99's PIN Vault downloads bank statements, stock quotes, and other data from multiple institutions in a single phone call.

FILEBOX

Intuit Quicken Deluxe 99

☆☆☆☆☆

Verdict: The most popular personal finance manager just got better.

Pros: A masterful financial home page and various usability improvements that take full advantage of the Web; a version for every type of user.

Cons: Disables older versions of Quicken by moving user files during the upgrade without making their new location sufficiently clear.

$60 est. street price ($30 for Quicken Basic 99, $90 for Quicken Financial Suite 99 or Quicken Home & Business 99, $100 for Quicken Financial Center 99 with TurboTax Deluxe 99)
Intuit
(800) 446-8848
Enter 721 at www.pccomputing.com/infolink

RATINGS: ★★★★★ EXCELLENT ★★★★ GOOD ★★★ ACCEPTABLE ★★ POOR ★ UNACCEPTABLE

Crashproof Your PC

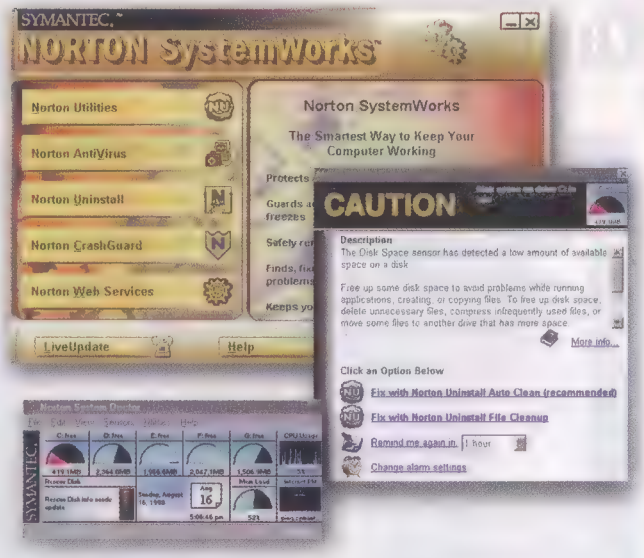
SNEAK PREVIEW

Like an unexpected IRS audit or a shark attack, a system failure is always something that happens to the other guy, right? Wrong. It's just a matter of time before a critical problem—a hard disk failure, lost files, or a corrupted Windows Registry—takes out your PC too. Symantec's Norton SystemWorks and Network Associates' McAfee Nuts & Bolts 98 are two powerful system minders designed to protect you from the inevitable.

Both SystemWorks and Nuts & Bolts 98 offer all the major tools, from disk optimizers to recovery disks to antiviral support. SystemWorks has Norton's diagnostic tools, including CrashGuard and Norton AntiVirus, while Nuts & Bolts 98 features McAfee VirusScan.

Safety Net Although both programs offer one set of menus for most of the tools, with Nuts & Bolts 98 the experience isn't seamless—you need to install VirusScan separately, and it doesn't integrate into the suite.

SystemWorks and Nuts & Bolts 98 both include a number of sensors that monitor your computer's vital signs and check for disk space, network bottlenecks, CPU performance, and viruses. When the programs detect a potential problem, they explain what's wrong, suggest solutions, and link to the appropriate utility to fix the problem. One difference between the two programs is that SystemWorks offers more in-depth assistance than Nuts & Bolts 98.



Vital Signs Both Symantec's Norton SystemWorks (above) and Network Associates' McAfee Nuts & Bolts 98 have integrated control panels, a battery of sensors, and useful advice for keeping your PC in top form. When the programs detect a problem, they suggest fixes and link to the right utility.

SystemWorks and, to a lesser degree, Nuts & Bolts 98 have truly blossomed into comprehensive utility suites. Norton's Uninstall tool, for instance, can now move entire applications between hard disk partitions just as PowerQuest's MagicMover does. Likewise, SystemWorks and Nuts & Bolts 98 accelerate programs so they launch faster, and the utilities optimize your hard disk to better access commonly used applications.

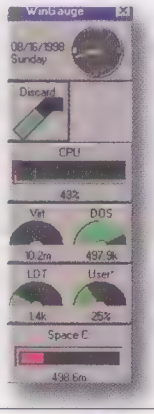
Quick Fix Both programs create rescue disks with snapshots of your critical system files. SystemWorks even lets you create a rescue Zip disk—complete with a copy of Windows that you can use to run your PC if you can't boot from the hard disk.

SystemWorks introduces a new tool, Web Services, which automatically updates all your applications via the Internet. It's free for the first six months, but after that you need to pay for continued use of Web Services.

Nuts & Bolts 98 has a few tricks you won't find in the SystemWorks toolbox. There's Pretty Good Privacy (though it's completely disconnected from the suite), a Year 2000 hardware compatibility sensor, a real-time backup tool, and a file encryption engine called McAfee Fortress.

Which diagnostic and repair software you choose is often less important than the commitment you make to using it consistently. By that measure, either program is a good choice. But SystemWorks' powerful integration, useful Web tools, and more comprehensive rescue system make it the better buy to protect your PC and its data.

DAVE JOHNSON



System Watchdog McAfee Nuts & Bolts 98 tracks critical information about your PC, like CPU usage, hard disk space, and bottlenecks. And it warns you when something is amiss.

FILEBOX

Symantec Norton SystemWorks

☆☆☆☆☆

Verdict: The best utility package for Windows staves off disaster—and helps you recover when it eventually strikes.

Pros: Integrated interface makes it easy to solve problems as they happen; online updates for your whole software library.

Cons: Still no backup tool.

$99 list price
Symantec
(800) 441-7234
Enter 722 at
www.pccomputing.com/infolink

McAfee Nuts & Bolts 98

☆☆☆☆

Verdict: A solid, powerful set of utilities that comes a lot cheaper than Norton.

Pros: Extra tools like encryption and Year 2000 tester; low price.

Cons: McAfee VirusScan installs separately and isn't integrated into suite.

$49 est. street price
Network Associates
(800) 338-8754
Enter 723 at
www.pccomputing.com/infolink

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

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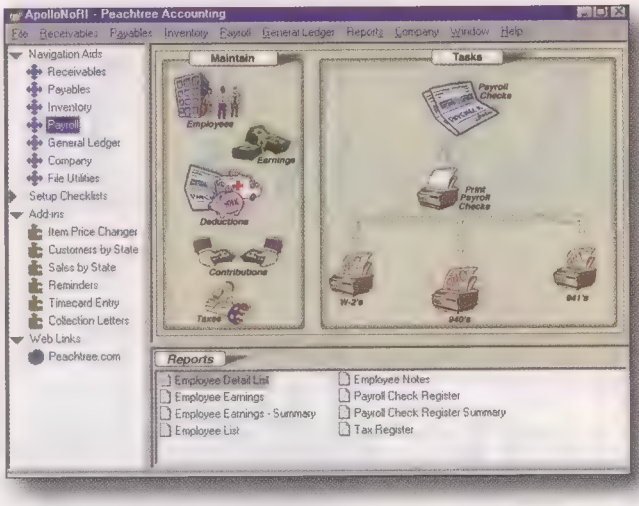
Small-Office CPA

Where do you find critical business information when you need it most? Try your accounting program. That's where some of the most useful data about your small business or departmental workgroup resides—which is dandy for bean counters who are fluent in accounting. But if you spend most of your day in Microsoft Office, you'll find the new Peachtree Office Accounting a more accessible place to keep your books, freeing you to use your favorite apps for day-to-day activities.

Peachtree Office Accounting is an affordable but powerful program that lets you use Microsoft Word and Excel templates to perform routine data-entry chores and extract information such as inventory levels, item prices, and financial statements. You can share these and other reports with other Office users across your company network or over the Internet.



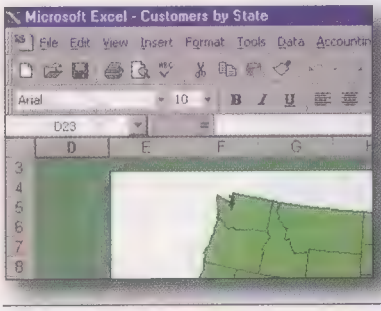
Take It into Account If you live in Microsoft Office, now you can do your accounting there too. Peachtree Software's $149 Peachtree Office Accounting is tightly integrated with the popular business application suite. Use Microsoft Word and Excel templates to perform routine data-entry chores and extract information like inventory levels, item prices, and financial statements.

Extras! Extras! At $149, Peachtree Office Accounting comes with six add-ins that provide easy-to-follow views on your accounting modules: Some launch Excel templates for employee timekeeping, updating inventory, or graphically charting sales and customers. Others let you use Word to create collection letters or schedule reminders that it sends to your e-mailbox when it's time to order an inventory item or schedule a meeting.

Peachtree Office Accounting incorporates a number of the usability features that Microsoft Office devotees have long been familiar with—setup wizards, right–mouse-button support, and Explorer-on-the-desktop. The program ships with a free copy of Internet Explorer 4.01 for standard Internet duties as well as for downloading future add-ins from Peachtree and third parties.

On the downside, this first version of Peachtree Office Accounting does not include true multiuser support. You can install it on a network, and as many members of your workgroup can dip into it as you're willing to license—but two or more employees aren't able to use the program at the same time. That's a major shortcoming for a product obviously designed for data sharing. Likewise, Peachtree Office Accounting lacks true job costing in its Receivables module and the ability to track assemblies.

On the other hand, Peachtree Office Accounting has a very intuitive Payroll module and offers advantages such as the ability to attach photos to employee payroll and inventory records. Each of the 90 ready-made reports in the program is conveniently associated onscreen with its corresponding accounting module. Save reports in common Microsoft Office or HTML format, and you can post them on your Web site or e-mail them to coworkers and customers.



EZ Add-in Double-click on one of the add-ins such as Customers by State to launch the appropriate Microsoft Office application for data entry or analysis.

Account Manager Like Peachtree Complete Accounting, the new product has 75 sample companies to choose from in setting up your chart of accounts. Also, you can hide unnecessary data columns or general ledger information from data-entry screens, and revert to Peachtree Office Accounting's accounting-under-the-hood option anytime you need to watch the flow of debits and credits. Additionally, you're given an audit trail for finding your way back to inaccurate field entries.

Despite its overall power, a few critical shortcomings limit this early version of Peachtree Office Accounting to the smallest businesses that are truly Microsoft Office–centric. It's a powerful record keeper with great promise, but no replacement for Peachtree Complete Acounting or Intuit QuickBooks Pro. **MIKE HOGAN**

FILEBOX

Peachtree Office Accounting

★★★★☆

Verdict: Do everything in Microsoft Office? Check out this exceptional accountant.

Pros: Add-ins and Web links let you do your accounting from within Microsoft Office applications.

Cons: Not as complete as stand-alone accounting packages; lacks multiuser support and electronic services.

$149 est. street price
Peachtree Software
(800) 428-6957, (770) 724-4000
Enter 724 at www.pccomputing.com/infolink

RATINGS: ★★★★★ EXCELLENT ★★★★ GOOD ★★★ ACCEPTABLE ★★ POOR ★ UNACCEPTABLE

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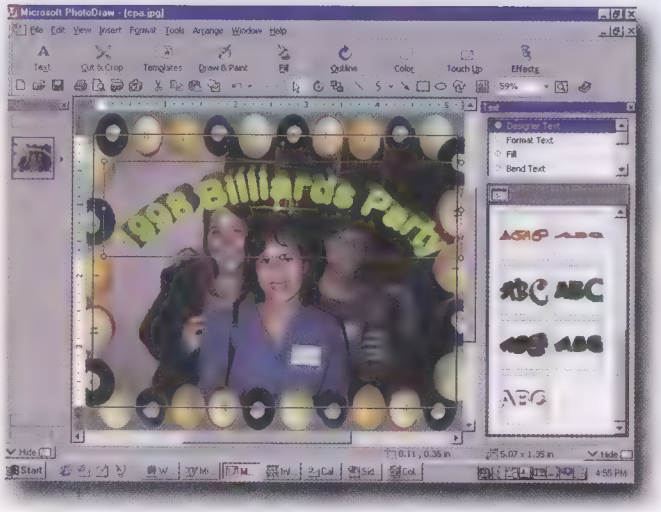
Infolink 185 at: www.pccomputing.com/infolink

Pictures in Graphic Detail

Just because you don't have the budget to hire a fancy design firm doesn't mean your company's promotional materials should look low-budget. Microsoft's PhotoDraw 2000 offers an affordable way to create high-caliber graphics for your company's flyers, letterhead, logos—even its Web pages. And there's no art degree required.

PhotoDraw 2000 is really two products in one: a photo editor and a graphics illustrator. It's got all the tools you need for capturing images and retouching photos, *and* it's crammed with painting and vector-drawing tools. It also includes 300 templates (everything from business cards to Web banners) and 20,000 photos, backgrounds, and pieces of clip art.



Easy by Design Stop using tired clip art and goofy stock photos in your marketing materials and presentations. Microsoft's $150 PhotoDraw 2000 lets you edit digital photos, create free-form illustrations, and turn ordinary text into an eye-catching event—even if you're not an artist.

Custom Clips While the canned content that comes with the program is high caliber, you can also customize it endlessly. Clip art doesn't quite fit your company's image? Tweak the graphic with a shadow, transparency, or 3-D effect, or add a rustic touch with the charcoal-drawing effect. You can preview any effect in a visual menu before you apply it, and since PhotoDraw supports most standard text and graphics file formats, you can dress up text as well as images. For more specialized effects, PhotoDraw supports Photoshop plug-ins.

Sneak Preview Not sure what a certain effect will do? PhotoDraw's visual menus make it easy to get a preview.

Another way to make your creations stand out is with the program's drawing tools. Draw images freehand, or start with the provided shapes. Another option is to use one of the program's paint and photo brushes to outline images. These let you add edges that resemble different brush strokes and apply details like holly, flowers, or chains.

If all you want to do is clean up a digital photo, PhotoDraw can help there too. It has a TWAIN driver to import photos directly from a digital camera or a scanner. You'll find all the standard tools to crop, adjust brightness, erase red eye, and remove dust or spots. Wizards walk you through the more difficult tasks.

Click Here Since most businesses need to create Web graphics as often as printed graphics these days, PhotoDraw includes special tools for this. There's a Web color palette, as well as a handy preview option that lets you view different settings and download times. Unfortunately, if you use Windows 95, you're force-fed Internet Explorer 4.0 as you install PhotoDraw. But you can uninstall IE later and still use most of PhotoDraw's online features with your default browser.

We're especially fond of the Save For Use In Wizard feature, which ensures the best end result for your creation. Select whether your graphic is destined for the Web or print, and a wizard steps you through preparing your graphic for that particular format.

While PhotoDraw includes many great features, you pay for them in performance. The wait for effects to render will have you drumming your fingers in maddening anticipation. Even tasks as simple as importing images or changing fonts are time-consuming. This sluggish performance also makes it hard to explore PhotoDraw's many features. The minimum system requirement for the program is a 90MHz Pentium with 32MB of RAM, but we found performance lagged even on a 233MHz Pentium with 64MB of memory.

Even so, Microsoft's drawing program is a usability breakthrough in graphics software. If you need high-quality graphics for a song, put PhotoDraw 2000 on your palette.

LIESL LA GRANGE NOBLE

FILEBOX

Microsoft PhotoDraw 2000

☆☆☆☆

Verdict: Even small-budget companies can have big-budget graphics.

Pros: Powerful photo and drawing tools; useful templates; hand-holding wizards make even tricky effects easy.

Cons: Slow performance; interface overwhelming at times.

Competition: No other product has all the tools or features found in PhotoDraw 2000. Adobe PhotoDeluxe Business Edition, for example, lets you create business materials and edit photos, but it doesn't offer as many tools, any customization features, or Web templates.

$150 est. street price
Microsoft
(800) 426-9400
Enter 725 at www.pccomputing.com/infolink

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

TECHNOLOGY

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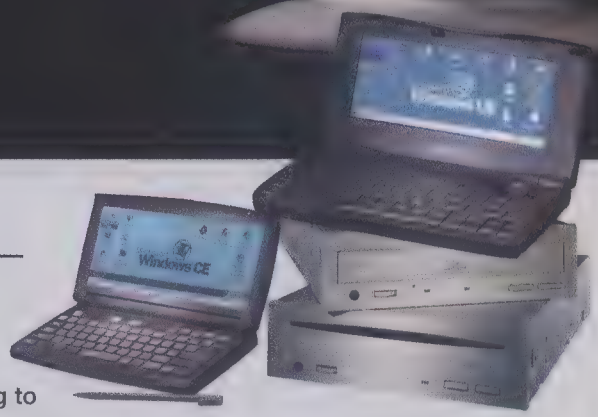

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Win the Paper Chase

Forget a paperless office. You'd be happy to clear enough of the clutter off your desk just to see the surface. Maybe *then* you could get some work done. Document management suites offer the best way to convert your paper documents into electronic image files, index them, add annotations, and create fully editable word processing files via OCR.

Get Organized Three packages—ScanSoft Pagis Pro 2.0, Visioneer PaperPort ScannerSuite, and NewSoft Presto PageManager 98 Gold Edition—each bundle software for document management, OCR, and other tasks in a single box. And they all let you convert documents into HTML for Web publishing.

But they're not all created equal. The best package overall is Pagis Pro 2.0. It has the most elegant interface too. Our favorite feature is the unified scanning interface, which overrides your scanner's software and lets you choose the best settings for any document.

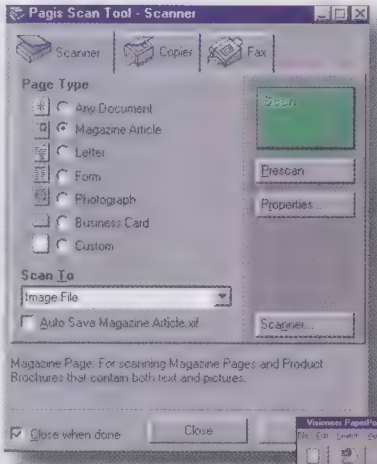
Pagis Pro also separates the elements of a complex document into layers, so you can keep or remove items like color backgrounds or borders. Excellent searching and indexing, smooth e-mail integration, and easy archiving to a removable drive round out the package. And you get ScanSoft's TextBridge Pro 98 for OCR, MGI PhotoSuite for photo editing, and Pagis Copier too.

Visioneer's PaperPort ScannerSuite is the easiest to use of the three. We like its stacking feature, which lets you group a bunch of similar documents—business cards, say—in one manageable pile. Its search feature is also the most straightforward. And in addition to PaperPort Deluxe, you get ProOCR100, PictureWorks PhotoEnhancer, and a few other goodies.

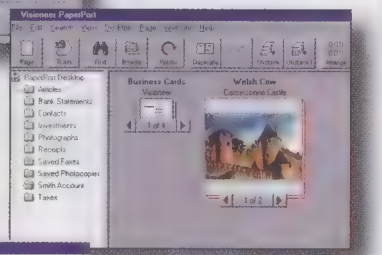
But ScannerSuite's clean, user-friendly interface offers the fewest bells and whistles. Its image editor is pretty scrawny compared with Pagis Pro's. And ScannerSuite automatically saves your image file as the current date—meaning that the filename is the date with a number added—and the program doesn't give you an initial option to create multipage documents.

Like Magic Presto PageManager 98 Gold Edition is an impressive upgrade from its predecessor. It comes with Image Folio, Presto Forms, and a direct link to PhotoNet, a Web-based photo-developing service. The feature we liked best is the Wrapper. It lets you group a collection of images, no matter what the file format, and create an executable file to send via e-mail. To view the images, the recipient simply double-clicks on the file icon.

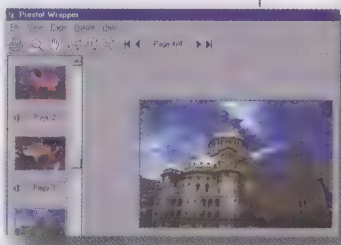
For the widest range of features and the most control over your scanned images, Pagis Pro is the best choice. If you already use PaperPort and don't want to give it up, do yourself a favor and upgrade to ScannerSuite. And if you spend most of your time scanning photos or sharing digital camera shots with friends, you'll like Presto PageManager 98. LESLIE AYERS



Super Scan Pagis Pro's scanning window gives you complete control over quality, size, and document type for every job your scanner sees. You can add keywords and save images automatically too.



Stack 'Em PaperPort Deluxe, part of the ScannerSuite, lets you stack related documents for easy viewing.



Gift Wrap Use Presto PageManager 98 Gold's Wrapper to send groups of scanned images to anyone via e-mail.

FILEBOX

Pagis Pro 2.0

☆☆☆☆

Verdict: The best way to move paper off your desk and into your PC.

Pros: Uses the same flexible scanning interface for documents and photos; powerful search options.

Cons: Keyword indexing is confusing to set up.

$99 est. street price
ScanSoft, a Xerox Company
(800) 584-6843, (978) 977-2000
Enter 726 at
www.pccomputing.com/infolink

PaperPort ScannerSuite

☆☆☆

Verdict: If you can drag and drop, you can turn all your printed documents into electronic files.

Pros: Easiest to use; stacking feature groups similar documents for easy access.

Cons: Image editor is a bit weak.

$80 est. street price
Visioneer
(800) 787-7007, (510) 608-6300
Enter 727 at
www.pccomputing.com/infolink

Presto PageManager 98 Gold Edition

☆☆☆

Verdict: A great package for sharing photos and other files via e-mail.

Pros: Use the Wrapper to send scanned files or photos to others via e-mail—no image viewer necessary.

Cons: Inconsistent menus and dialog boxes.

$80 est. street prices
NewSoft America
(800) 436-4365, (510) 445-8600
Enter 728 at
www.pccomputing.com/infolink

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

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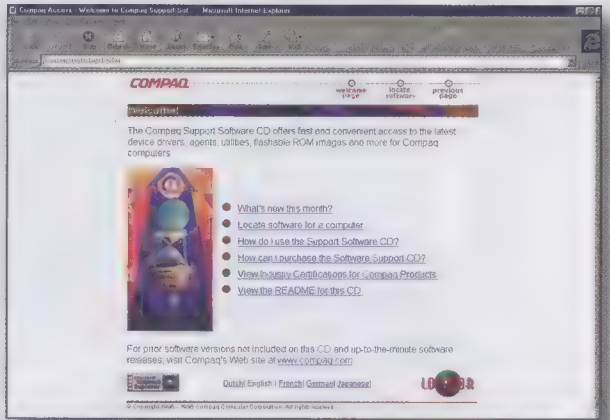
You tell Support Software the model numbers of your desktops, notebooks, or workstations, and it lets you check to see if there are any driver or device updates for these systems. Unfortunately, Support Software does not automatically scan your system or notify you of updates. And it doesn't brief you on the benefits or pitfalls of installing new drivers; it just alerts you that they're available.



Support Group Compaq's Support Software CD has an intuitive, browser-like interface that lets you seek software updates for your system on its support site.

Installation is simple, and the interface is intuitive. But once you determine which updates are right for your system, you must download and install the software from the CD—nothing is automated.

Want to get updated software for your Compaq systems delivered on a regular basis? The easiest way is Support Software's annual subscription. Otherwise, a one-shot CD purchase will bring your systems up to date. **LULIT BEZUAYEHU**

FILEBOX

Compaq Support Software CD

☆☆☆☆

Verdict: Takes the hassle out of managing drivers and system updates for your fleet of PCs.

Pros: Timely updates.

Cons: You still have to download and update the drivers.

$25 for single CD kit of current month, $200 for annual subscription
Compaq Computer Corp.
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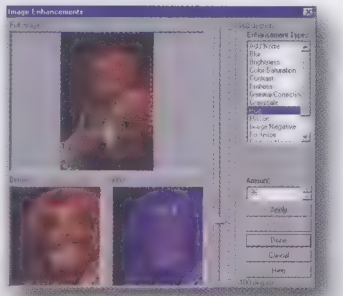
Enter 732 at www.pccomputing.com/infolink

Thinkstream Scan-O-matic

Antidote for Document Overload

If you feel like you're slowly going insane as you try to manage the deluge of letters, e-mail, faxes, and other missives you trudge through each day, it's time to let your PC manage it for you. Thinkstream's Scan-O-matic document manager is a good place to start.

It handles documents and images from TWAIN-compliant scanners; images from digital cameras, CD-ROMs, and the Web; faxes; and any other digital content. Merging images from these sources with business documents (such as Word files) is a snap. Scan-O-matic also lets you annotate, mail, and fax your documents, as well as convert them to HTML or transform a series of documents into a self-running slide show for viewing with your Web browser.



All Digital Get a grip on your digital documents with Thinkstream's Scan-O-matic.

The interface resembles Windows Explorer, which gives Scan-O-matic a familiar feel. The icons on the Quick Start menu provide easy access to the product's many wizards for functions such as scanning or uploading a document to the Web.

Although Scan-O-matic works well with other OCR packages, including Xerox's TextBridge and Caere's OmniPage, it does not include any built-in OCR of its own. Another perplexing oversight is the lack of support for GIF files. In all, Scan-O-matic supports 17 file formats and provides 15 Photoshop-style image editing tools for enhancing the quality of your scans.

Overall, Scan-O-matic is a capable and easy-to-learn digital document manager, but it won't make all your file headaches go away. **MARTIN SARGENT**

FILEBOX

Scan-O-matic

☆☆☆

Verdict: An easy-to-learn document manager that makes it simple to stash and find business documents and graphics files.

Pros: Tons of wizards; easy to master.

Cons: Lacks OCR and support for GIF files.

$49 est. street price
Thinkstream
(800) 308-3690
Enter 733 at www.pccomputing.com/infolink

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

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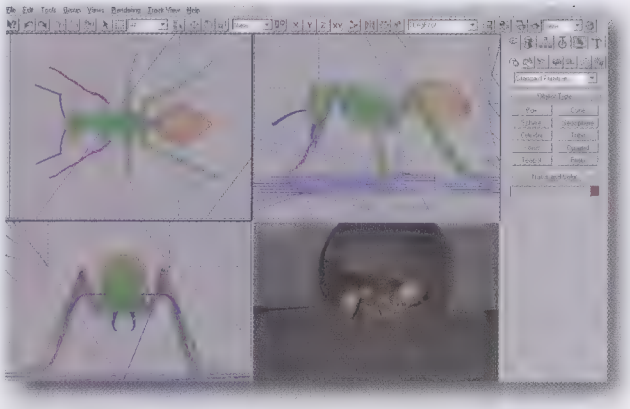
3-D That's Fit for TV

If you're amazed by the animated dancing babies popping up everywhere, wait till you try the software that conceived them. Kintetix's high-end 3-D modeling and animation program, 3D Studio Max R2.5, lets you create Hollywood-grade 3-D objects simply by dragging your mouse.

Select a basic geometric shape, like a square or a tube, and Max R2.5 displays a wireframe model of it inside various perspective windows. You can bend, twist, and pull the object into any 3-D shape your imagination concocts, and you can also attach other objects to it. A right-hand toolbar lets you quickly add colors, lighting, and textures. This toolbar also houses Max R2.5's vast set of technical-sounding special effects, like NURBS and Particles, which create snow, rain, and explosions.



Touch This Create any object—or creature—with Kinetix's 3D Studio Max R2.5, and then bring it to life.

Animating your 3-D object is easy. Simply drag it across one of the windows, and enter the speed in the keyframe box. But while you don't need a degree in computer programming to use Max R2.5, there is a significant learning curve. Thankfully, Kinetix has built in a well-crafted online tutorial to ease the learning process.

Although it costs more than a bare-bones 3-D modeling package, if you're looking to create the next animated dancing baby, 3D Studio Max R2.5 will groove with you every step of the way. IBRAHIM GUL

FILEBOX

3D Studio Max R2.5

☆☆☆☆

Verdict: A simple way to create and animate jaw-dropping 3-D objects.

Pros: Special effects galore; requires only a Pentium II–class PC; handy tutorial.

Cons: Steep learning curve.

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Kinetix
(800) 879-4233
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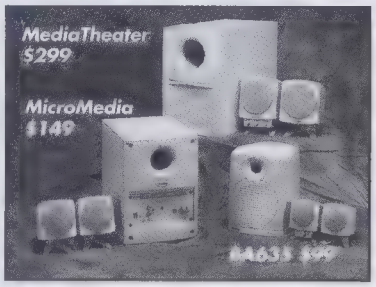

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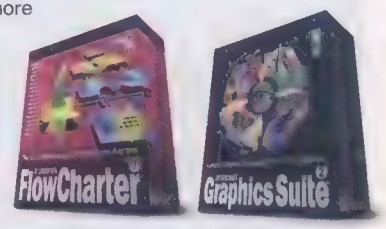
New FlowCharter 7 offers more powerful tools than the previous version — ABC FlowCharter. It includes revolutionary Living FlowCharts™ that turn static diagrams into dynamic interactive processes and CoolSheet™ Templates that jump start the most common diagrams.



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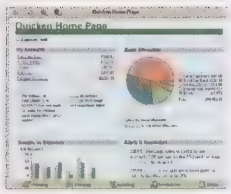

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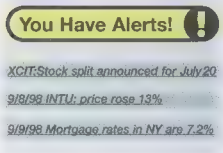

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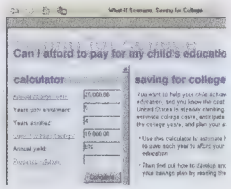

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Print an Entire Web Site

The Web is great for research, but when you're ready to read, it's still hard to beat paper. Trouble is, the pages that emerge from your printer rarely resemble the document you were browsing online. Canon's WebRecord 2.0 and Hewlett-Packard's Web PrintSmart aim to ease the printing nightmare.

Web Refresh Canon's second-generation WebRecord is easier to use than HP's Web PrintSmart. Use WebRecord along with your favorite browser and printer, and it lets you easily select URLs (or documents from other applications) for viewing and printing. You can manipulate the order of pages and make other formatting choices. From the Options, Settings menu under the Fetch tab, you choose how far you want WebRecord to follow links.

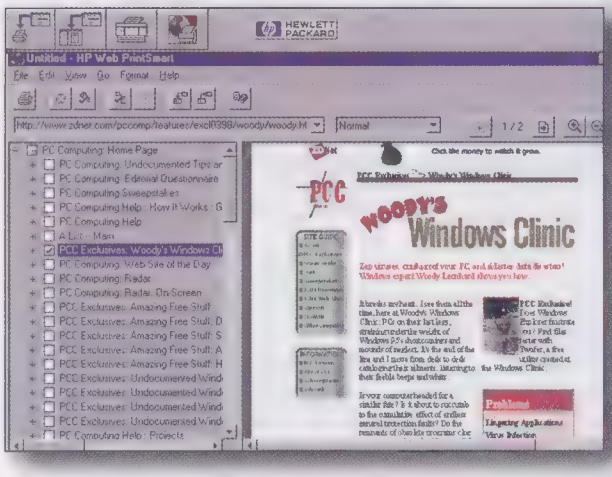
WebRecord displays a print preview of your selected pages. The program formats your data by breaking up pages and printing more than one Web page per paper sheet, which is more efficient than your bare-bones printing options. Print your documents with a white background, or pick one of Canon's 50-plus supplied styles. But this is overkill—we'd rather select only parts of a page to print than customize the look of a mostly hidden background.

Read Ahead HP's Web PrintSmart package offers a few more features than WebRecord—and it's free (WebRecord costs $30). However, Web PrintSmart supports only HP LaserJet, DeskJet, and OfficeJet printers, and works only with Netscape Navigator 3.0 or later and Microsoft Internet Explorer 3.02 or later. The program is optimized to work with Internet Explorer, so we ran into some trouble when we tried to load pages from Netscape Communicator 4.0. With Internet Explorer 4.0, however, we had no problems whatsoever.

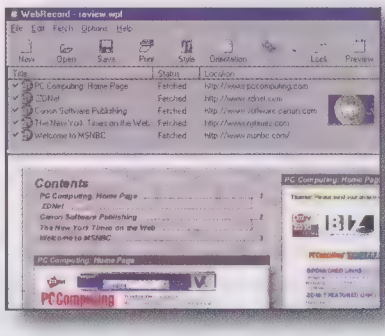
With Web PrintSmart you can schedule a collection of pages to download. For example, the program can retrieve your favorite news and stock sites every day at 6 a.m., gathering the pages and printing them for you so they're ready in time for your morning coffee. You can apply style sheets to the Web pages to get a consistent look even with pages retrieved from completely unrelated sites. Unlike WebRecord, however, Web PrintSmart doesn't do a good job of formatting pages efficiently by offering column options or sizing pages to minimize blank spaces. Web PrintSmart also buries some options—specifically those for choosing how deeply to retrieve a page you want to print.

While both programs bring necessary features to Internet printing, they have a long way to go. Canon WebRecord's page arrangements are more efficient and pleasing than HP Web PrintSmart's, while Web PrintSmart offers more powerful features and an unbeatable price (free) but a more complex interface. If you use any browser other than Internet Explorer, go with WebRecord.

KYLA K. CARLSON



Portable Internet With HP's free Web PrintSmart 1.0 and Canon's $30 WebRecord, you can print an entire Web site without loading every page. Web PrintSmart (above) lets you print specific links within a page.



Fit to Print Canon's WebRecord does a nice job of formatting Web pages for printing, including resizing pages to minimize blank spaces.

FILEBOX

Canon WebRecord 2.0

☆☆☆

Verdict: A smart way to print multiple Web pages and other files in one fell swoop.

Pros: Easy-to-use interface; supports all browsers and printers.

Cons: Cost; some options are buried; limited control over choosing page sections to print.

$30 est. street price
Canon Software Publishing
(800) 652-2666
Enter 746 at www.pccomputing.com/infolink

HP Web PrintSmart

☆☆☆

Verdict: A novel way to control Web printing for HP printers.

Pros: Free; scheduling feature; lets you choose which page elements to print.

Cons: Complex interface; supports only HP printers; doesn't work seamlessly with Netscape Navigator.

Free download
Hewlett-Packard, (800) 752-0900
www.hp.com/go/webprintsmart

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

Java Apps in Under an Hour

So you want to create custom Java apps? Here's a tip for flattening the learning curve: Cosmo Code 2.5 provides a customizable and powerful graphical interface that simplifies the programming process.

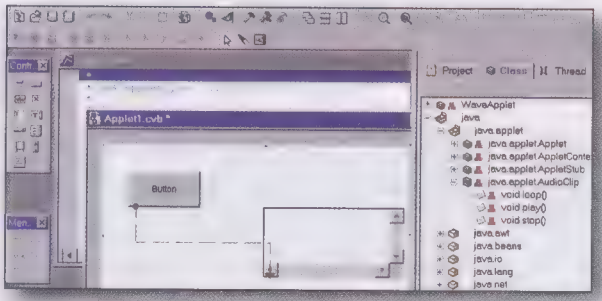
A simple wizard guides you through setting up the type of application you want. Cosmo Code includes prewritten chunks of code, or components, that you can drag into the workspace, define attributes for, and drag and drop to wire together; you can configure their functions and interactions in a pop-up dialog box. In addition to eye-dazzling animations, you can create a raft of Java-based applets.

A bonus is the bundle of professional-quality components from Rogue Wave, which include graphics, data structures, and database classes. You can also create your own components. Add JavaBeans and other existing Java components, and you can easily switch between Java 1.0 and 1.1—important for compatibility.

Cosmo Code comes with solid Static Analysis tools, including one that lets you see how different Java classes interact at runtime. It also has a point-and-click class structure navigation, a full-featured query engine, a graphical debugger, and easily set breakpoints. Cosmo Code includes graphical views of a program's object-oriented structure, tear-off cards, and a program manager.

Make no mistake, Cosmo Code is not for the casual Java programmer. But professional coders will appreciate its sleek interface and custom coding options that make short work of writing long Java apps.

GEOFFREY WILLIAMS



Timesaver Want a powerful Java programmer's tool that won't have you reaching for the aspirin? Cosmo Code 2.5 includes everything for custom applets.

FILEBOX

Cosmo Code 2.5

☆☆☆☆

Verdict: Build custom Java apps in half the time.

Pros: Strong Static Analysis tools.

Cons: Not for novices.

$329 est. street price
Platinum Technology
(800) 442-6861, (630) 620-5000
Enter 748 at
www.pccomputing.com/infolink

Activerse Ding Enterprise 2.0

Instant Intranet Messaging

Feel like you're constantly either on the phone or dropping by folks' offices for quick, impromptu work discussions? Take your business chats online with Activerse's $695 Ding Enterprise 2.0.

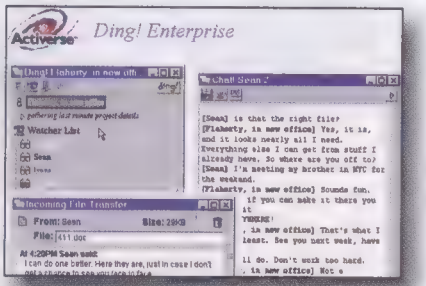
Ding includes peer-to-peer and group chat features, plus it lets you transfer files, share HTML 1.0 content, and work with live Internet chat sessions. Ding Enterprise 2.0 includes Ding Switchboard and 20 client licenses; Activerse also offers 50- and 100-client packs.

It was easy to install the Ding Switchboard on our Windows 95 desktop (Switchboard also works with Windows 98 and NT, Sun Solaris, and Unix). Ding clients automatically register with the Switchboard, where there's a buddy list that shows all available clients by name. From the buddy list, you can see exactly who's online and whether or not they're free to communicate.

Sound dreamy? Hold on. Ding is all Java-based, which is great for cross-platform offices, but you've got to pay the performance price, as Java is a bit slow. Also, Ding is based on a proprietary protocol, called Rendez-Vous Protocol (RVP), which has yet to be adopted as an Internet standard. The result? Ding clients can chat only with other RVP clients.

These objections aside, corporate chat has a place in some offices. If e-mail and phone tag are too slow for your fast-paced business, Activerse Ding Enterprise 2.0 is an interesting alternative.

RICH SCHWERIN



Can We Talk? Take quick, impromptu business chats online with Activerse's $695 Ding Enterprise 2.0.

FILEBOX

Ding Enterprise 2.0

☆☆☆

Verdict: A glimpse at the future of corporate chat.

Pros: Easy setup; file-transfer feature; peer-to-peer based.

Cons: Slow performance; chat protocol not yet an Internet standard; a tad pricey.

$695 est. street price for 20 clients
Activerse
(800) 235-9274, (512) 708-1255
Enter 749 at
www.pccomputing.com/infolink

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

NEW!

For Windows®95, Windows®98, Windows NT®4.0

PHOTOSUITE® II

Functionality, Productivity & Entertainment for the Home and Business User!

Effortlessly capture, touch up, transform, organize, create, show, and share photos on your PC all within one application. NEW technology and enhanced features make MGI PhotoSuite II the most complete PC photography software. MGI PhotoSuite II delivers all the sophisticated, yet easy-to-use tools and functions necessary to achieve professional photo results. MGI PhotoSuite II – The Complete PC Photography Experience.

Projects

- Create photo collages
- Make photo cards and calendars
- Choose from a wide variety of home and business projects

Albums

- Store photos, video, sound in albums
- Search for photos by keyword in a photo album
- Create Web Albums
- Drag and drop photos from any web page

Slide Shows

- Create slide shows with photos, transitions, background music and sound effects

Internet*

- Directly access the Web
- Connect directly to Online Photo Services
- Download FREE content, effects, features or user interface styles
- Direct link to Lycos Pictures and Sounds™ – over 40,000 FREE photos & sound clips

Guides

- Step-by-step Guides lead you through the process of working with photos on your PC
- Constant source of inspiration and direction

Photos

- Edit your photos
- Resize & rotate photos
- Touch up your photos
- Add special effects
- Warp photos

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Available at leading software retailers, or visit www.mgisoft.com for our retail locater.

PhotoSuite Upgrade or Competitive Upgrade Available! • $10 Mail-In Rebate • See coupon inside box or visit MGI's web site for details.

Infolink 310 at: www.pccomputing.com/infolink

*Your favorite Internet service provider is required to access the Internet. © Copyright 1989-1998 MGI Software Corp. All rights reserved. Priority code: MGI 172

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Warp-Speed Web Surfing

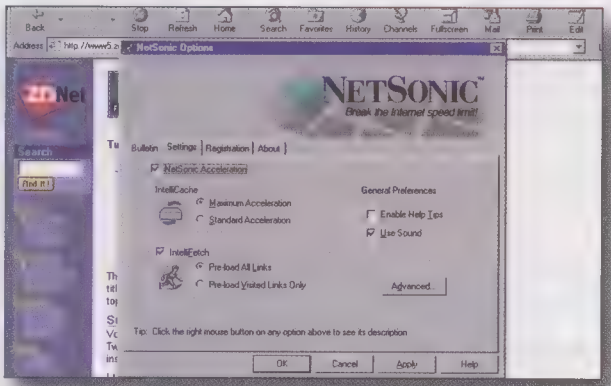
Click. Wait. Click. Yawn. If you spend more time waiting than working on the Web, check out Web 3000 NetSonic Internet Accelerator.

Like other Web accelerators, NetSonic prefetches Web pages that you might visit in the future. Its real strength, however, lies in expediting return trips to pages you've already visited. As you surf the Web, NetSonic stores the pages you visit in its cache. When you return to a previously visited page, NetSonic delivers the page almost instantly from its cache.

OK, neat trick, but what about updates? As you browse, NetSonic checks the Web site in the background to see if any elements have been updated since your last visit. If anything has changed, NetSonic alerts you to reload the page. NetSonic reloads only the new elements, which minimizes the wait time. Plus, NetSonic's technology feature speeds up your surfing by prefetching the text content of other pages on the site you're visiting.

If you tend to revisit sites that don't change frequently, or if you don't depend on up-to-the-minute information like stock quotes, NetSonic will make you think you've tapped into a T1 line. NetSonic is free to download at Web 3000's site. For $30 you can upgrade to the deluxe version, which offers additional acceleration modes.

GORDON BASS



Fast or Screaming-Fast? Don't settle for slow Web connections. Web 3000's free NetSonic Internet Accelerator speeds up surfing by prefetching pages.

FILEBOX

NetSonic Internet Accelerator

☆☆☆☆

Verdict: The next best thing to a T1 line—and it's gratis.

Pros: Fast, friendly, and free.

Cons: Loses its luster if you frequently retrieve up-to-the-minute news.

Free to download, $30 for deluxe version, est. street price
Web 3000, (425) 836-3000
www.web3000.com
Enter 750 at www.pccomputing.com/infolink

Raosoft EZSurvey 98 for the Internet

Instant Online Feedback

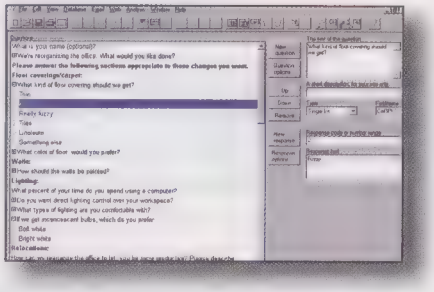
The Web is a great place to gather marketing data. But doing something useful with the data you find is the real challenge. Raosoft's $399 EZSurvey 98 for the Internet tackles that problem for you by creating and sending surveys via e-mail and the Web, then analyzing the responses.

EZSurvey generates everything from multiple-choice to standard write-in questions for your questionnaire. You can even include conditionals that bounce users to follow-up questions. Once you've built the form, just export your questionnaire to an HTML format, complete with a CGI file that sends results to your Web host server, or e-mail the form to recipients.

The best feature in EZSurvey 98 is support for sending and collecting responses via Microsoft Exchange, Lotus Notes, cc:Mail, and Internet POP3 and SMTP mail. It also searches your server for the data it needs to pull in from the Web form. It would be nice if EZSurvey could import e-mail responses directly from the Web, but the only option it gives you with the Web form is to save data to your server.

To let you sort your collected data, EZSurvey includes the essentials—pie charts, bar graphs, and tables. If you want more, you'll need to export EZSurvey's DBF files into other spreadsheet or statistics programs. EZSurvey 98's intuitive survey creation and analysis tools are worth a try for getting the feedback you need.

BONNY L. GEORGIA



Survey Said Got a burning question for your customers? Raosoft's $399 EZSurvey 98 for the Internet helps you get the answers you need.

FILEBOX

EZSurvey 98 for the Internet

☆☆☆☆

Verdict: Quick way to poll your customers online.

Pros: Supports several popular e-mail services/clients and Web servers; easy to edit.

Cons: Graphs are not editable; limited analysis tools.

$399 est. street price
Raosoft, (206) 525-4025
Enter 751 at www.pccomputing.com/infolink

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

convergence

DEFINED BY SONY. REFINED FOR YOU

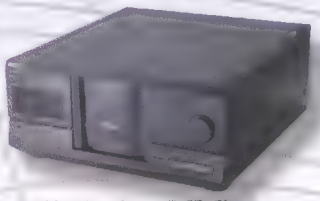
VAIO

convergence:

VAIO WORLD™

The products that make up VAIO World feature state-of-the-art AV/IT convergence capabilities. Individually, they work exceptionally well. Connected, they enable you to do so much more.

Digital Mavica® Camera

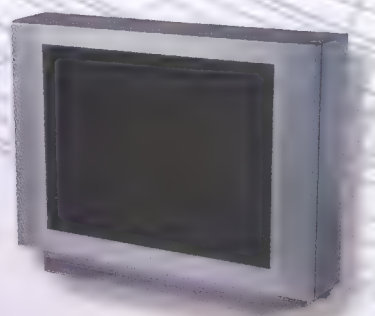


200-Disc MegaStorage™ CD Changer

Digital Handycam® Camcorder

VAIO Digital Studio PC & 17" Trinitron® Multimedia Display (16.0" viewable image size)

50" Wide-Aspect LCD Rear Projection Display (49.1" viewable image size)



36" FD Trinitron® XBR® Television

VAIO WORLD

www.sony.com/vaioworld

AN EMPOWERING BLEND OF AUDIO, VIDEO AND INFORMATION TECHNOLOGIES.

Convergence starts with our world-class consumer electronics products and a vision of video-audio integrated operation (VAIO®). The introduction of our distinctively styled VAIO computer products brought us a giant step closer. Now, with the combination of Sony original software, i.LINK™ (IEEE-1394) interface, S-Link™ technology (Control-A1) and digital AV products, you can enjoy the benefits of AV/IT convergence firsthand.

You can experience VAIO World.

See how selected Sony products work together to enable exciting new possibilities. Now you can easily edit digital video right on your desktop, manage your CD collection, edit MiniDiscs, add voice messages to your e-mail and more.

Convergence makes things simpler. More fun. More enriching. And as the only company that has fully converged AV/IT products today, Sony is Defining the Digital Future.™

MD Recording Deck with PC Editing

VAIO Notebook Computer

Portable MiniDisc Player/Recorder

VAIO 505 SuperSlim Notebook

MiniDisc Receiver

D-WAVE Zuma™ Digital Phone

Portable IC Chip Recorder

SONY®

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RATINGS:

convergence:

enter VAIO WORLD

www.sony.com/vaioworld

If you want to create home videos people will really enjoy, just use a DCR-TRV9 and edit them with our exclusive DVgate Motion software and a PCV-E308DS VAIO Digital Studio PC. Sony's AV/IT convergence gives you a complete, easy-to-use digital video editing solution.

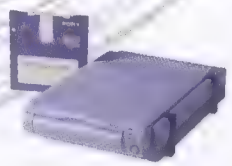
A SOPHISTICATED DIGITAL VIDEO EDITING SOLUTION FOR THE HOME.

"Nonlinear digital video editing" sounds complicated. But thanks to Sony's AV/IT convergence, it's really easy and fun. You get impressive results the first time and every time.

Sony's DVgate™ Motion digital video editing software (included with your VAIO Digital Studio PC) provides an easy-to-use interface from which to control a Sony Digital Handycam® camcorder. It lets you preview digital video on your computer display with onscreen Play, Pause, Fast Forward, Rewind and Stop buttons. Select the best parts of your video by marking the in and out points. Then, click "Capture." DVgate Motion will automatically transfer them to your Sony PCV-E308DS VAIO Digital Studio™ hard drive as a complete, edited movie. Using Adobe® Premiere® LE (included with the VAIO Digital Studio system), you can also select and transfer clips individually to apply spectacular effects.

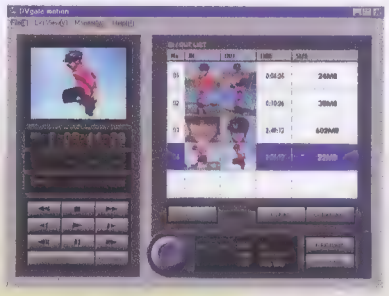
Sony's DV software codec and i.LINK (IEEE-1394) interface, an amazingly fast connection between the Digital Handycam camcorder and the VAIO Digital Studio PC, let you quickly transfer full-motion video with no loss in quality. In fact, you can download up to 25 MB of razor-sharp digital video in a matter of seconds!

With the Sony DCR-TRV9 Digital Handycam camcorder and the PCV-E308DS VAIO Digital Studio PC, you have everything you need to effortlessly create entertaining videos you, your family and your friends can enjoy.



Sony's 200 MB HiFD floppy disk drive is ideal for archiving up to 20 minutes' worth of full-motion MPEG-1 video.

The Sony DCR-TRV9 Digital Handycam camcorder is easy to use and produces stunning, high-quality digital video. The PCV-E308DS provides the power and an enormous 13.6 GB hard drive that gives you lots of space to be creative with your work. It also processes MPEG-1 video. So, if you want to archive compressed versions of your videos, just add a Sony HiFD™ floppy disk drive. Its 200 MB HiFD media easily stores up to 20 minutes of full-motion video. You can also transfer your videos back to DV tape via i.LINK (IEEE-1394) cable for pristine viewing in their original format or transfer them to VHS for sharing with friends.



Sony's DVgate™ Motion editing software makes it easy to transfer and edit in high-quality digital video.

Sony's innovative video and IT products give you all the necessary elements to bring professional-style editing capabilities into your living room, your family room and your life. And that's just one way Sony defines AV/IT convergence.

KV-36XBR200

convergence: A COMPLETE DIGITAL IMAGING SUITE THAT GOES WHEREVER YOU GO.

Sony's MVC-FD81 Digital Mavica® Camera and PCG-818 VAIO® Notebook Computer help you easily add images to presentations for greater impact. Even better, they're highly portable, so you can work and create wherever you happen to be.

Sony PictureGear™ photo management software, available on all VAIO computers, saves time, enables creative effects and helps you organize your images the way you think of them: visually. Select a folder and PictureGear software will show you thumbnails of each image file. You can also print floppy disk, CD, MD and DV tape labels with pictures and text so you can instantly identify what you've stored.

With PictureGear 2.5 software (available with the PCG-818 VAIO Notebook) you can even create a seamless panorama from a series of overlapping shots, automatically.

The Sony MVC-FD81 Digital Mavica Camera is as easy as a floppy to use with PictureGear software. It uses inexpensive, readily available 3.5" floppy disks to store your digital images so you don't need cables or PC card readers to transfer them to your computer. And for added versatility, it also captures short MPEG-1 videos that can be used in multimedia presentations to grab and hold your audience's attention.

The PCG-818 VAIO Notebook with DVD movie playback, a large, 13.3" XGA active-matrix screen, 2X battery life* and the maximum mobility afforded by its light weight (less than 6 lbs.) and slim design (less than 1.75" thin), make it stand out as a stand-alone digital imaging system.

The Digital Mavica Camera and the PCG-818 VAIO Notebook give you simplicity, power and freedom. They're another example of what AV/IT convergence is all about.

*using optional second battery in removable drive bay.

PCG-818

MVC-FD81

Sony's PictureGear software helps you organize all of your digital images.

www.sony.com/vaioworld

enter VAIO WORLD

convergence: THE ABILITY TO BE HEARD AROUND THE WORLD.

You never know where or when a big idea will come to you. But with the Sony ICD-70 IC Chip Recorder and the PCG-748 VAIO® Notebook Computer, you can capture it as fast as you can say it, store it for future reference, then e-mail it to anyone on the Internet.*

The ICD-70 makes commute time and downtime productive time! The supplied WAV LINK software lets you download your recorded messages to your PCG-748 as sound files. You can then attach them to e-mail, add some text and eliminate a whole lot of typing and transcribing!

The lightweight ICD-70 gives you up to 24 minutes of recording time and lets you access any message in any file so you can easily manage your dictations and reminders. Digital Voice-Operated Recording (VOR) helps conserve recording time.

The PCG-748 provides ample value for business applications—a large, 13" HPA screen with XGA resolution, 2X battery life,** light weight and a slim profile (6 lbs. and 1.9" thin). It also includes a V.90 compatible data/fax modem for high-speed Internet connectivity.

Sony AV/IT convergence at work—redefining "freedom of speech."

PCG-748

ICD-70PC

*Turn drive time into productive time with the Sony ICD-70! Record your thoughts, then use the Sony PCG-748 VAIO Notebook to e-mail them to others on the Internet.**

* Internet access requires Internet service provider.
** Using optional second battery in removable drive bay.

convergence:

The Sony CDP-CX260 200-Disc MegaStorage™ CD Changer puts your favorite CDs at your fingertips. A Sony MDS-PC1 MD Recording Deck can capture your music in all of its digital glory. And a Sony MZ-R50 Portable MiniDisc Player/Recorder frees your music from the confines of your home so you can enjoy it anywhere.

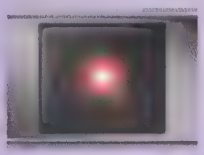
But how do you keep track of all that music, edit your favorites on MiniDisc and still have time to listen to it?

The answer is Sony AV/IT convergence.

Sony Digital Media Park™ software helps you build a database of your entire CD music collection so you can find your favorite tracks instantly. It lets you enter artists' names and song titles with the computer's keyboard for faster, easier cataloging. It also updates the tables of contents of your existing MiniDisc recordings!

Making new MD mixes with Digital Media Park software is also very easy. Just select the titles and tracks you want to record, arrange them in the proper order and click "Record." Sony AV/IT convergence does the rest automatically!

S-Link™ technology (Control-A1) allows compatible Sony home electronics* to easily share data and communicate intelligently. It's the link that turns your VAIO Digital Studio™ PC into an easy-to-use, "drag-and-drop" interface for managing MiniDisc recording and cataloging the contents of the 200 CDs in your MegaStorage CD changer.



S-Link technology (Control-A1) and the optical digital audio output (shown above) make it simple to record music digitally.

The optical digital audio output enables your Sony CD player,

MDS-PC1

CDP-CX260

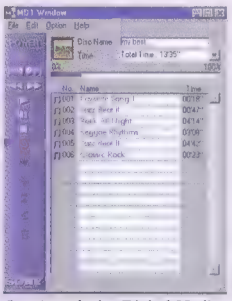
Get more enjoyment out of your music. Experience Sony AV/IT convergence and the simplicity of Sony S-Link technology (Control-A1) and Optical Digital Audio Out.

THE POWER TO MASTER YOUR MUSIC.

MiniDisc Player/Recorder and PCV-E302DS VAIO Digital Studio PC to transfer music with virtually no loss in sound quality. So, you can record music from CDs, MiniDiscs and the Internet.**

Of course, the Sony VAIO Digital Studio PC is much more than a convenient interface for an all-digital recording studio. Its i.LINK™ (IEEE-1394) interface and pre-installed Sony DVgate™ Motion digital video editing software enable high-quality digital video editing right in your own home. Plus it features outstanding graphics, audio and a fast 5X DVD-ROM/24X CD-ROM (max. performance) drive.

Because of the way Sony's defined AV/IT convergence, you can spend less time finding your favorite songs and more time enjoying them on custom MiniDiscs you've edited yourself.



Sony's exclusive Digital Media Park software makes mixing and recording your own MiniDiscs as easy as "point" and "click."

*Features available on selected models only—please see www.sony.com/vaioworld for compatibility list.
**Always observe applicable copyright laws. Internet access requires an Internet service provider.

convergence: THE CAPABILITY TO FREEZE THE ACTION.

With an ordinary camera, it's easy to miss the perfect shot. They go by so quickly!

Fortunately, Sony AV/IT convergence will change the way you think of photography. Rather than hoping you'll press the shutter button precisely when the perfect moment occurs, shoot some digital video with a Digital Handycam® camcorder instead.

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PCG-505FX

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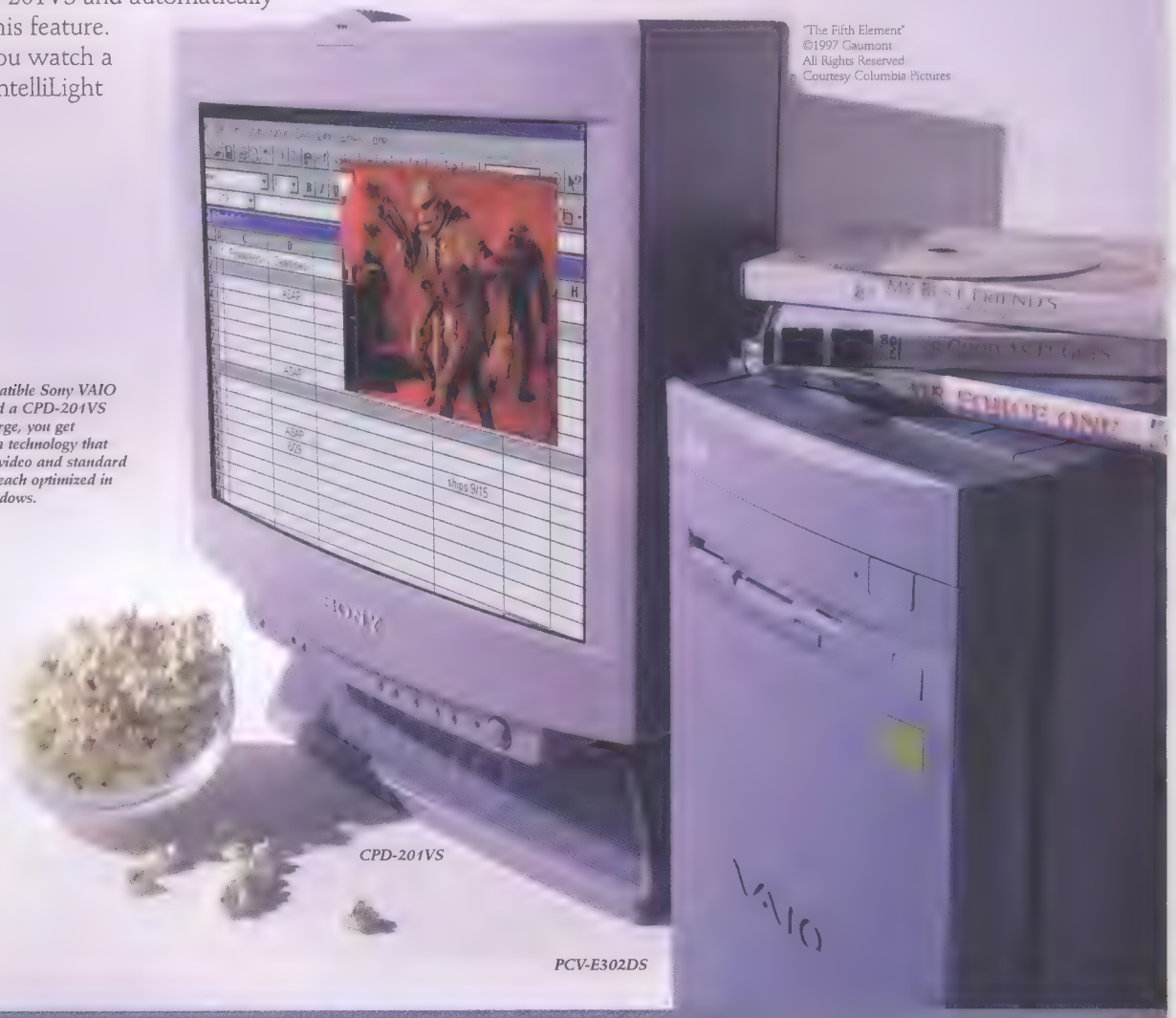

"The Fifth Element"
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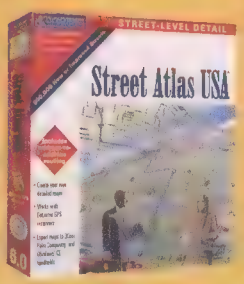

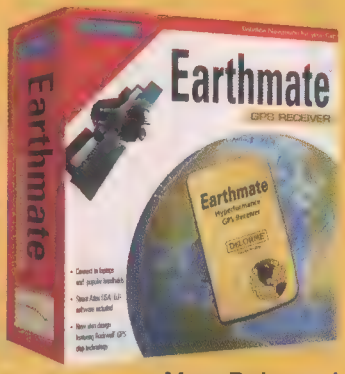

New Releases!

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By Ron White

Misspent Youth and Quarters

Once, when I was a younger man, I wrote a column called "Capt. Video's Game Tips" for the local paper where I worked. This was a blatant scam that let me enliven my expense report with pocketfuls of quarters squandered on lunch-hour visits to the video arcade. My friends and I missed many a deadline plunking quarters into the machines and shouting phrases at the games that usually are heard only in the throes of passion. I'm not the only one who remembers fondly the innocent days of Pac-Man, Missile Command, and Asteroids. The golden oldies are making a comeback on CD-ROM—either as nostalgic re-creations of the original games or as games with bold new graphics and action. But nostalgia just isn't what it used to be. Some of the old favorites look tame today. And some of the upgraded, modern versions are overenhanced.

PHOTOGRAPH BY DAVID PERRY

BATTLEZONE ●●●●

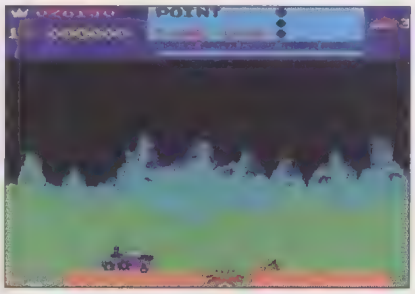
A favorite of mine from the arcades was Battlezone, one of the first true 3-D environment games. You battled wireframe enemy tanks for a world made of green-on-black straight lines. Every once in a while a whirling dervish of a creature appeared out of nowhere causing an adrenaline/fear rush. I liked Battlezone mostly because I'd figured out the trick to winning—always move backward. But I also liked it because it was easy to control the tank—just two handles, one each for left and right tank treads. In contrast, the modern Battlezone has more than 50 controls. I don't think even real tanks have that many controls. Plus you're expected to use the mouse for steering, which is like walking on ice with Teflon-soled shoes. This isn't just a complicated shoot-'em-up. It's a complicated strategy/mech/flight sim/shoot-'em-up. You win the war by building war machines and deploying them against the Soviets. But you win the battle by jumping into a tank and showing the others how wars are fought, at least on the moon. For the ultimate strategy enthusiast, Battlezone comes with a level editor and Internet multiplay. But I'll have to wait until I take a remedial course in schizophrenia.

Battlezone / Activision / (800) 477-3650, (310) 255-2000 / $50 est. street price / *InfoLink No. 675*

ARCADE'S GREATEST HITS ●●

On the other hand, it's possible to do too little to old arcade favorites. GT Interactive has rolled seven classic Midway arcade games, including Moon Patrol, Burger Time, and the all-purpose Blaster, onto a single CD. The most original of the oldies is Joust. It's like the game of chicken you used to play in the pool, only this version involves midair battles between ostrich-riding knights. Each game is faithful to the original—to a fault. For example, to start the racing shooter Spy Hunter, you're told to press the flashing hub of the steering wheel. I finally got it going when I accidentally hit some joystick button.

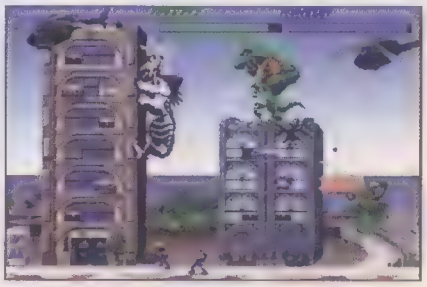
Arcade's Greatest Hits / GT Interactive Software / (800) 610-4847, (212) 726-6500 / $30 est. street price / *InfoLink No. 676*



Oldies but Goodies **The Moon Patrol is ever vigilant in Arcade's Greatest Hits.**

RAMPAGE WORLD TOUR ●●●●●

I hate to sound like Goldilocks, but Rampage World Tour gets it just right. The game involves a gorilla, a wolf, and a Godzilla clone—all giants—who climb up buildings, smash them until they collapse, swat down civilian aircraft, and eat or squish people. And these are the good guys—the characters you control. The giant monsters have all the fun. After all, who wants to play the puny humans lobbing ineffective bombs and bullets when you can be trashing a city? The updating to the game has been all to the good. Although it's still a side-scrolling game, I'd swear the monsters have some 3-D shading they used to lack. The CD also provides network play, secret moves, 130 standard levels, and grudge-match levels. It's an old game that still works today.



Aggression Buster **Never liked neo-Grecian architecture? Rampage World Tour is your chance to destroy it.**

Rampage World Tour / Midway / (903) 874-5092 / $40 est. street price / *InfoLink No. 677*

RATINGS: ●●●●● KING OF THE ARCADE ●●●● INITIALS IN TOP 10 ●●● HITS BONUS LEVEL ●● ONE LIFE LEFT ● NO QUARTERS

Look Familiar? **Pac-Man? Why no. Never heard of him. I'm Mac-Man—entirely different.**

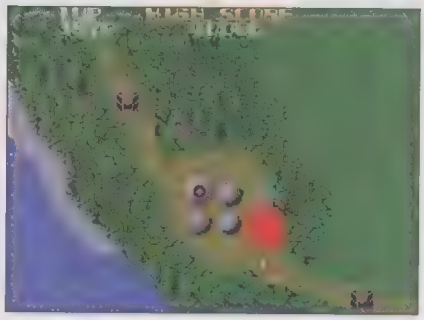
WINDOWS ARCADE PACK ●●●●●

The subtitle of Windows Arcade Pack should be "We Couldn't Afford the Trademarks." The five games on the CD are rip-offs of quarter-munching classics with the names changed to avoid lawsuits. You have Patriot Command (Missile Command), Diamonds (Breakout), Hemiroids (Asteroids), Bricklayer (Tetris), and Mac-Man (do I really need to tell you?). HemiRoids is not as gross as you're imagining. The word's short for *hemispherical asteroids,* and you get the idea. The rip-off is a really decent improvement, without being three-dimensional. Better graphics, more weapons, and easier to control than the original. They're all like that in the Arcade Pack—enough changes to make them interesting but still faithful to the originals. If you're feeling homesick for the mall arcade, this Arcade is a good fix. And if you have kids too young to have seen the originals, they'll love them as much as you did. If they don't, I'd insist on DNA testing.

Windows Arcade Pack / WizardWorks / (800) 229-2714 / $20 est. street price / *InfoLink No. 678*

REVENGE OF ARCADE ●●●

Microsoft, of course, can afford to buy trademarks. So no monkeying with monikers on Revenge of Arcade. Legal or not, I recognized only two names of the five games on the CD. Ms. Pac-Man is the politically correct version of the game that started it all. Xevious is a flying, shooting game with which I had a relationship a couple of decades ago that . . . well, the less said the better. Two others I remembered once I played them. Rally-X is a like a demolition derby inside a giant hedge maze. Mappy is a cat-and-mouse chase that involves a lot of jumping. I never thought either was worth a quarter. The ringer on the CD is Motos, which I'd never seen in its original incarnation—and too bad. It's something different. You bump into things before they can bump you off the playing grid. Motos is faithful to the portrait orientation, as are all the games on these arcade-game CDs. As a result, the games don't fill up the screen well, and fiddling with your screen resolution doesn't help much. Still, I'd keep this CD on the short stack just for Xevious.



Game On **Battle the oncoming hordes of, uh, whatever they are in Xevious, the game you can't pronounce.**

Revenge of Arcade / Microsoft / (800) 426-9400 / $35 est. street price / *InfoLink No. 679*

FROGGER ●●●●●

To tell the truth, I didn't care much for Frogger when it was in the arcades. Not much to the game other than timing those jumps from log to log. And the music was annoying. Frogger on CD, however, must be where good arcade games go when they croak. Frogger is reincarnated as an imaginative, 3-D CD that transforms the arcade clunker into a fun blend of action, problem solving, and whimsical worlds that really need 3-D acceleration to be fully appreciated. There's still the timing issue, but compared with games that have more controls than a squid could handle, the jump-jump-tongue-jump interface makes it a snap to start playing. And you get to choose which of the dozens of levels you want to play. There's none of this earning-your-stripes jazz. Simple jumping expands to untold complexity that keeps the game fascinating, and you have the Power Croak and the Super Tongue, weapons Froggie of yesteryear only dreamed of. I have only one objection to Frogger: Why does the frog die if it lands in water? These are amphibians, you know.

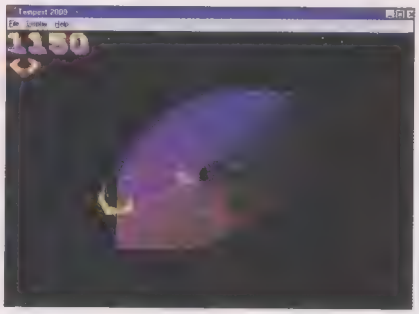
Ribbit **On your mark, get set, hop through the new 3-D worlds of Frogger. Twank your magic twanker, froggie.**

Frogger / Hasbro Interactive / (800) 400-1352 / $40 est. street price / *InfoLink No. 680*

TEMPEST 2000 ●●●●

Tempest was another of the sirens that drew me back to the arcades. It's a legend. You maneuvered something that looked like a drunken electrical spark around the brink of odd-shaped 3-D planes. And these planes emitted other monsters of electricity. Part of the appeal was that it was a 3-D game before there were 3-D games. Part of the fascination was how Tempest, without any of the fancy realistic tricks we see today, brought electricity to life. Part of the allure was a more than usual Sisyphean reminder of the briefness of life and the inevitability of death. The CD version, which has been out a while, uses only a few of the 3-D special effects to spruce up the game. There are new levels, for a total of 90—more than I'll ever master. Hope you can find this one still for sale somewhere. It deserves another life.

Tempest 2000 / Interplay / (800) 468-3775, (714) 553-6678 / $15 est. street price / *InfoLink No. 681*



Shocking Stuff **It's a Tempest in a 3-D pot—early metaphysical psychedelia in video games.**

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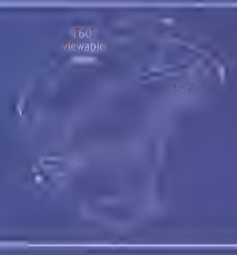

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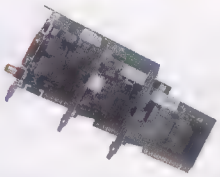

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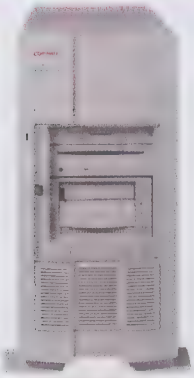

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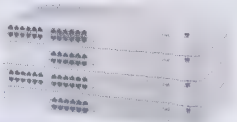

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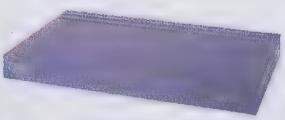

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Single LAN/Dual WAN Router

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UNDOCUMENTED

Internet Secrets

You're dying to dig up some details on your shifty new neighbor. And you'd sure like to find out who keeps calling and hanging up. You can. But that's not all. Zero in on any fact you're looking for in seconds flat, uncover heaps of freebies for your business and home, and cut your workload in half.

All you need is an Internet connection. And our guide. We show you how to browse the Web undercover—and double your connection speed. Plus find anyone or anything online instantly, make the Web work for your business, and never pay full price again.

Unlock hidden sites even the search engines can't find, dig up dirt on anyone, and tap into stashes of amazing free stuff!

By the Editors of PC Computing

Go Deep Undercover

Beat Web marketers and spammers at their own game. Browse the Web incognito in six easy ways. No stupid disguise required.

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How to Get Ahead

You know you want to. Zoom past all those poor saps still waiting in line on the Web—and never look back.

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Find Anything—Fast

Go ahead, ask. Anything you want to know. It's all there on the Web. We show you how to get the goods in no time flat.

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Work The Web

Boost business. Get free e-commerce and Web ads. Plus plenty of shortcuts to keep your outfit running smoothly on and off the Net.

174

Steals and Deals

You can buy anything you need on the Web—and lots of things you don't. We show you how to get the best prices. Free stuff too!

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ILLUSTRATIONS: WWW.SLACKART.COM

GO DEEP Undercover

We know where you live. And so do millions of other people. Crafty Webmasters steal your identity as you browse. And you give yourself up by filling out Web forms. But you can protect yourself—and spy on other people too.

Just because there's no paper involved in Web browsing doesn't mean you can't leave a trail. But hopping from place to place on the Internet without leaving tracks is getting harder as technology develops and e-marketers hone their tactics. One way is to keep your personal information off the Web entirely. Here are the top ways to do just that.

Surf by proxy. The simplest approach to Internet anonymity is using a proxy server. A proxy acts as a buffer between you and the Web pages you seek; you view the site just as you normally would, but all the site sees is the proxy's address. Big businesses provide proxies for employees, and many commercial ISPs are doing the same. But if you don't have this protective umbrella—at home, for example—check out the Anonymizer at www.anonymizer.com/surf_free.shtml. To use it, just type the Web address you want to go to into the Anonymizer and click on Go. You can also go directly to a site incognito by adding *anon.free.anonymizer.com/* in front of the Web address. But be prepared for a 30-second delay. If you can't wait, pay $15 per quarter for regular-speed anonymous browsing without ads.

Pass on cookies. A cookie is a string of characters written to a file on your hard drive named COOKIES.TXT. Any server can read the contents of that file, and lines from specific servers identify you on succeeding visits. Some tricky outfits set up their servers to read other servers' cookies, which means they can track your movements online. Set your browser to reject cookies or to ask before accepting a cookie. In Microsoft Internet Explorer 4.0, go to the View menu and choose Internet Options. Click on the Advanced tab and scroll down to the Security category. Under Cookies, select either Disable All Cookie Use or Prompt Before Accepting Cookies. With Netscape Navigator 4.0, select Preferences from the Edit menu, then choose Advanced. Either select Disable Cookies or check Warn Me Before Accepting a Cookie. In some cases, however, you

Squash Spam

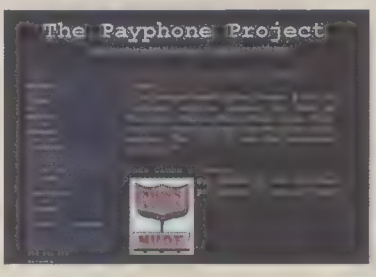
Heads up, Microsoft Outlook 98 users. Omron Advanced Systems offers a free version of its super spam killer MailJail exclusively for you at www.mailjail.com. MailJail uses artificial intelligence and an extensive spam database to block unwanted e-mail urging you to go for get-rich-quick schemes or find love through mail order. For even more spam-fighting power, get the full version of MailJail for $19.95.

Spy Central

Behind the gruesome graphics and tacky backgrounds on The Codex (www.thecodex.com) lies a virtual gold mine of Web links that help you dig up dirt on your enemies. It also features info on spy gadgets, surveillance, and hacking. Keep the spy tips flowing to your in-box with the free Codex newsletter.

Nab Crank Callers

Put caller ID to work. Once you've got a phone number, go to the Web to do a reverse lookup. Enter the phone number and the results tell you who it belongs to. Exact revenge on crank callers—or just find out who your employees have been calling on the company dime. Be sure to test your own phone number too. Try AnyWho's Reverse Lookup at www.anywho.com/telq.html. If the prankster is calling from a pay phone, you can find out by matching the number with one of thousands listed on The Payphone Project's site at sorabji.com/livewire/payphones.



need to accept cookies from a site to take full advantage of its services. This is especially true on sites that require a user ID or a password.

Fool their servers. To thwart servers that collect your e-mail address and other info from your browser, temporarily remove your e-mail address, user ID, real name, and other private information you'd rather not share from your browser settings. This is an especially good idea if you plan to visit sites that are new to you. Strip out this information and the only data a nosy server can see is your ISP's address and geographical location. Copy the info from the various fields before you delete it. You'll need it to access your e-mail later. In IE4, click on Internet Mail and select Options. Click on the Server tab and delete the text that appears in the fields. In Navigator, go to the Edit menu and select Preferences. Click on Identity. Delete the information in each of the fields displayed. Next click on Mail Server and delete your information.

Avoid forms. When was the last time you were able to download a demo version of some popular software or join an Internet mailing list without filling out a form as long as your arm? If this sounds familiar, here's a tip: Avoid them whenever you can. Glitches occasionally allow other site visitors to view your personal information. More commonly, cutthroat marketers glean your info to find out if you're a potential buyer of their product. The next thing you know, you have more spam in your in-box than personal mail. Or, worse, telemarketers start to call you during dinnertime. Another option is to enter fake information. This works especially well if you use an e-mail account reserved solely for receiving product info or e-mail newsletters. For a list of companies that offer free Web-based e-mail, see "E-mail Alias," page 156.

Check your profile. If you use America Online, CompuServe, the Microsoft Network, or another online service, this is a good time to double-check your profile. Back in 1994 when you opened your AOL account, you might have thought it was cool to announce full name, gender, age, interests, and more to the rest of the AOL universe. Now that you're a little wiser, it's time to pare it down. If you connect to the Net via an ISP, check to see if there's information about you in the ISP's finger system. This is a program running on many ISP servers that stores basic user information in a publicly accessible database. To check it, go to www.rickman.com/finger.html or www.cs.indiana.edu:800/finger/gateway. Enter your e-mail address in the search field to see what information is available on you. Then check your ISP's Web site for instructions on how to delete or change that information.

Watch your mouth. Public postings are a great source of info on other people. Just don't let yourself get stuck on the receiving end of snooping. Do a search on any given topic on Deja News (www.dejanews.com) and you'll be amazed at what people say in Usenet newsgroups. And they even sign their full names and e-mail addresses. The same is true of bulletin boards and discussion forums on the Web and within online services, like America Online. The Internet has ears: Anything you post in public could end up archived somewhere in a searchable format.

Sample Some Dirt

And we don't mean the kind that flowers grow in. Informus, a paid investigative service that provides businesses with all manner of info on all manner of people, offers a tiny taste of its snooping powers at www.informus.com/ssnlkup.html. Not enough for you? You could always subscribe. Informus charges a $250 sign-up fee and $100 a year.

One-stop Spy Shop

It won't win any design awards, but Freeality Internet Search endears itself to any Web snoop by putting links to all the lookup services on the same page. Search reverse lookup services, e-mail and street address directories, toll-free numbers, area codes, and more at www.freeality.com/findet.htm. The site's home page is also a good source for general Internet search engine and directory info.

Be a Web Voyeur

Ever wonder what other surfers are doing on the Internet? Peek over people's shoulders as they search the Web. MetaCrawler's spybot, MetaSpy, comes in two flavors: filtered and unfiltered. If you're willing to risk exposure to racy material, go to www.metaspy.com/spy/warningtop.html. If you'd rather play it safe, you'll find the censored version of the top search queries at www.metaspy.com/spy/filtered.html. Another search site, WebCrawler, posts its current queries in ticker format at webcrawler.com/SearchTicker.html.

Not Politics As Usual

Politicians are crooks. What else is new? You can find out how they're financing their weekend getaways to the French Riviera and diamond-studded bathroom fixtures—besides freeloading from taxpayers. Look up political contributors by zip code (www.tray.com/fecinfo/zip.htm) or last name (www.tray.com/fecinfo/indiv.htm). Another good source is the Registered Federal Lobbyist Database at www.crp.org/lobby.

E-mail Alias

Free Web-based e-mail accounts are perfect for setting up throwaway e-mail addresses to use in public postings, on Web site forms, or in any other place where spammers can get their paws on your info.

AltaVista Email	altavista.iname.com
AmExMail	www.amexmail.com
Bigfoot	www.bigfoot.com
Free Stamp	www.freestamp.com
GeoCities	www.geocities.com
Hotmail	www.hotmail.com
MailCity	www.mailcity.com
MailExcite	mail.excite.com
Net@ddress	www.netaddress.com
RocketMail	www.rocketmail.com
Switchboard	www.switchboard.com
Yahoo Mail	mail.yahoo.com

Block Junk E-mail

Spammers can't find you if they don't know where to look. Besides using spam-filtering software like Omron's MailJail, here are some sly ways to keep your in-box nearly junk-free.

Create an e-mail alias. If your ISP or online service lets you have more than one username, create a throwaway ID for public postings, chat rooms, and for providing a mailto address on your Web pages. Filter, delete, or ignore all e-mail to that ID. Or use a free Web-based e-mail account (see "E-mail Alias" at left).

Don't respond to spam. This just encourages the spammers by verifying your e-mail address.

Stay mysterious. Don't create personal profiles with your online service or on your favorite Web pages.

Filter spam on AOL. Type in the keywords MAIL CONTROLS. Click on Set Up Mail Controls. In this window you can set your mail-filtering options, which include allowing all mail, blocking all mail, allowing mail only from specified addresses, or blocking mail from specified addresses.

Block ISP garbage. If you collect e-mail via an ISP with a program like Qualcomm Eudora (www.eudora.com), set up the program's filters to delete any spam before it reaches you. For more on this, check out www.mmgco.com/nospam or www.mindspring.com/~aegreene/eudora/no-spam.htm.

Fib on forms. When filling out an online form that requires an e-mail address, make one up or use your throwaway address.

Put a proxy to work. Use a proxy server when visiting sites for the first time, or remove your e-mail address from your browser's mail settings.

Find Anyone Fast

A name is all you have to go on. But it's all you need to find out someone's e-mail address, telephone number, or street address, or whether the person is still living. These Web sites offer services beyond plain-vanilla directories. (For a listing of directories, head to www.yahoo.com/Reference/White_Pages).

Ancestry.com www.ancestry.com
Search this site's Social Security Death Index for free. The SSDI lets you look up by name the birth and death dates and Social Security numbers of the deceased.

ClassMates www.classmates.com
Search for people you went to high school with. Add yourself to the database—if you want to be found.

MapQuest www.mapquest.com
Map any U.S. address and get driving directions there from wherever you are.

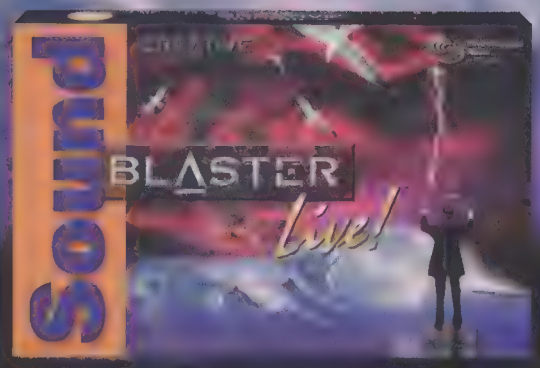
SalesLeadsUSA www.salesleadsusa.com
Tap into these sales leads before your competitors do. You have to pay to get your hands on the meaty lists, but you can do some free directory searching.

Where Did They Move To?
www.semaphorecorp.com/wdtg/jump.html
Use this handy lookup service to track someone who has moved or changed names, e-mail addresses, or URLs.

WorldPages www.worldpages.com
The name is a bit misleading—it offers only U.S. and Canadian databases. But it has links to global Internet directories that are quite handy.

PC Audio Has
Changed Forever.

Sound BLASTER Live!™



Environmental Au

Experience the most powerful sound card ever! Sound Blaster Live! introduces a new dimension of audio by including features and performance surpassing professional Hollywood-quality audio equipment. Sound Blaster Live! incorporates the superior surround-sound rendering of Environmental Audio™ to create sound so real it has to be Live! With an amazing 256 voices of music synthesis and real-time audio enhancement, enjoy live concert-like music productions so dynamic, you'll feel like you're right in the middle of an orchestra.

Environmental Audio™ by CREATIVE®

The Sound Blaster Live! hardware-accelerated Environmental Audio Extensions™ (EAX™), supporting new titles, offers an experience that goes way beyond 3D audio. Add the ability to enhance all your existing games and legacy audio with true digital processing. It will blow your home theater away!

dio — So Real It Has To Be Live!

Benefits of Sound Blaster Live!

Hollywood-Quality Audio Re-Creation
Professional-quality synthesizers and digital I/O provide audio fidelity that rivals movie theaters with digital sound.

Powerful Audio Processing Engine
With the EMU10K1 audio processor, every signal is processed at 32-bit, 192dB, 48kH using 8-point interpolation to smooth the sound - instantly improving any audio source.

Environmental Audio Enhances Existing Content
Experience depth and realism beyond existing 3D audio. Apply preset environment such as hall, cave or underwater to your existing games and applications for incredibly true sound.

Multiple Speaker Output
Produce surround-sound audio on your PC with built-in support for two or four analog speakers.

Digital I/O Card
This hardware feature provides digital S/PDIF I/O and a breakout of the MIDI I/O through MIDI DIN connectors. A Digital DIN connector is provided for further connection of up to eight digital speakers.

256-Voice Music Synthesis
Remarkable 256-voice capability goes beyond the quality and performance available in most professional music equipment.

Sound Blaster PCI Standard
Be assured of near-perfect Sound Blaster compatibility while enjoying the benefits of the PCI bus.

Environmental Audio Extensions/ Broad Driver Support
An open standard that allows the broadest support from software developers.

Sound Blaster Live! Website - www.sblive.com
Visit the Website for instant access to the latest applications, enhancements and drivers.

Rich Software Bundle
An amazing array of software to enrich your experience with Sound Blaster Live!

CREATIVE®

WWW.SOUNDBLASTER.COM

What is Environmental Audio™?

Environmental Audio — the next audio platform by Creative. Its revolutionary technology recreates real-world multi-dimensional audio on your PC. It immerses you in sound so vivid, you experience games, music, and other existing audio applications rather than just hear them.

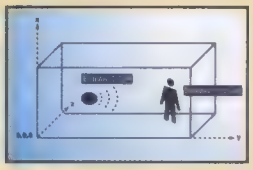
Environmental Audio™ by CREATIVE®

By nature, the human ear is intolerant of audio imperfections. The Environmental Audio Platform addresses this problem by introducing a system comprised of the following components:

- **Environmental Audio Hardware** powered by the powerful 1,000+MIPS, 2 million transistor EMU10K1™ audio processor chip, Sound Blaster Live! provides the highest possible audio fidelity with multiple digital audio input/output (I/O) capabilities.
- **Environmental Audio Software Technologies** created by E-mu Systems®, Inc., a subsidiary of Creative, that provides high-end audio equipment to Hollywood studios, will change the way you perceive audio forever. They include:

  E-mu Environmental Modeling™, which accurately positions audio objects in a 3D space by rendering audio reflections and;

  Creative Multi Speaker Surround™, which allows real-time panning and mixing of multiple sound sources using two or more speakers. These technologies will greatly enhance audio content from the past, the present, and the future.



- **Environmental Audio Extensions** (EAX) enable game and application developers to easily enhance their software with high-quality Environmental Audio effects. EAX is designed to be a natural extension to Microsoft® DirectSound® 3D API and has received overwhelming support from hundreds of software developers.
- **Environmental Audio Speaker Systems** work well with two-speakers, but Environmental Audio will deliver its full potential with Creative's new line of multi-channel systems.

The **PCWorks™ FourPointSurround™** speaker system is the best companion for your Sound Blaster Live!. It offers four compact satellite speakers and a powered subwoofer.

The **Desktop Theater™ 5.1**, a great companion for your PC-DVD™ system, is a five-satellite plus powered subwoofer speaker system with an amplifier and a built-in Dolby® Digital decoder.

*Look for the **Environmental Audio logo** on selected Creative and Cambridge SoundsWorks® products, and new supported game titles to ensure you are getting the Live! experience.*

Sound Blaster® Live! Card

Digital I/O Card

Technical Specifications

Wave-Table Synthesis

- E-mu® Systems EMU10K1™ music synthesis engine
- 64-voice polyphony with E-mu's patented 8-point interpolation technology
- 192-voice polyphony PCI wave-table synthesis
- 48 MIDI channels with 128 GM & GS-compatible instruments and 10 drum kits
- Uses SoundFont® technology for user-definable wave-table sample sets; includes 2MB, 4MB, and 8MB sets
- Load up to 32MB of samples into host memory for professional music reproduction

Effects Engine

- E-mu Systems EMU10K1 patented effects processor
- Supports real-time digital effects like reverb, chorus, flange, pitch shifter, or distortion across any audio source
- Capable of processing, mixing, and positioning audio streams using up to 131 available hardware channels
- Customizable effects architecture allows audio effects and channel control
- Full digital mixer maintains all sound mixing in the digital domain, eliminating noise from the signal
- Full bass, treble, and effects controls available for all audio sources

3D Audio Technology

- User-selectable settings are optimized for headphones and two or four speakers
- Accelerates Microsoft® DirectSound™ and DirectSound 3D
- Support for Environmental Audio™ property set extensions
- Creative Multi Speaker Surround™ technology places any mono or stereo sound source in a 360° audio space
- Creative Environments—user-selectable DSP modes that simulate acoustic environments like Hall, Theater, Club, etc. on any sound source

Hollywood-Quality, 32-Bit Digital Audio Engine

- User-selectable bit rates from 8- to 16-bit
- User-selectable sample rates from 8kHz to 48kHz
- All sound sources are handled with 32-bit precision for highest quality output
- Analog and Digital I/O modes supported
- Hardware full-duplex support enables simultaneous record and playback at 8 standard sample rates
- Utilizes AC97 audio codec

MIDI Interface/Joystick Port

- Supports MPU-401 UART mode
- IBM® compatible 15-pin joystick port with analog support
- Support for digital and Directinput™ game devices

Sound BLASTER PCI
The PCI Audio Standard

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Works with Windows 98

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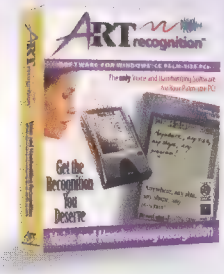
Get the Recognition You Deserve!



Voice, Handwriting, Macros, Gestures ...in the Palm of Your Hand!

Teach Your Palm-size PC to Recognize Your Handwriting

ART's award-winning **smARTwriter®** software lets you enter text and data using your own printed handwriting. Forget struggling to learn how to write with graffiti characters. Your Palm-size PC will learn your writing in just a few minutes.

PC MAGAZINE **WINNER Golden Gavel Award June 25, 1998**

World's Most Accurate Recognition

It's the full version of the handwriting recognition software that earned **Mobile Computing**'s ***1st Class Award***, and is the 1998 **mobilis** ***Readers' Choice Award*** winner for Windows CE software. The outstanding out-of-box recognition gets even better as you use it, and includes ART's proprietary "Ink-Smoothing" to remove the jagged edges caused when writing in a bumpy environment such as in a car or plane.

Easiest to Use

It works with any application. Write in any size, anywhere on the screen either upright (portrait) or flat (landscape)!

Create Gestures & Macros

Define your own shorthand gestures that can execute unlimited keyboard strokes. Open files, launch applications or insert entire paragraphs into a document by simply writing a custom gesture you create.

Use Your Voice to Operate Your Palm-size PC

Create your own macros — the most powerful way to operate your Palm-size PC

Fast, accurate voice recognition saves time and increases your productivity. No more scrolling down lists for files, contact names, and phone numbers — just tell your Palm-size PC what you want to do! You can choose from a great collection of commands already built in, or easily create your own library of commands trained to recognize your voice! Some of the incredibly time-saving commands built in include:

- **Open** + a document or note filename to open that document
- **Go to** + an application name to launch that application.
- **Dial** + contact name from your address book to dial a phone number via DTMF tones. Supports multiple numbers.
- **E-mail** + contact name opens and addresses a new e-mail form.
- **Fax** creates and addresses a new fax form. (Requires bFax Express).
- **Show Details** + contact name to display the complete contact record in the address book.
- **Get Mail** launches the Inbox, dials your e-mail server, and checks on-line for new messages.
- **Macro** executes a user-defined macro – commands like "cut" and "paste" – or inserts phrases or boiler plate text into a document. For example: create macros for "send office" or "send home" that would insert text into an e-mail message requesting that information be sent to your home or office address.
- **Voice Mail** creates a voice message that will be attached to an e-mail.
- **Calendar** launches the Calendar application with your choice of view (day, week, month, year, today or agenda).

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smARTwriter® Plus is the easiest, most accurate way to enter data on your H/PC. You get the best recognition accuracy because the built-in QuickTrainer™ "learns" your handwriting. Enter text and digits in any application, write in any size, anywhere on the screen. Create your own shortcuts or gestures to save time and increase your productivity. **smARTwriter Plus** requires minimal memory space and does not affect the processing speed of your H/PC. Also included: **smARTscribble™**, the handy utility that allows you to scribble your thoughts and notes, or even make a quick sketch!

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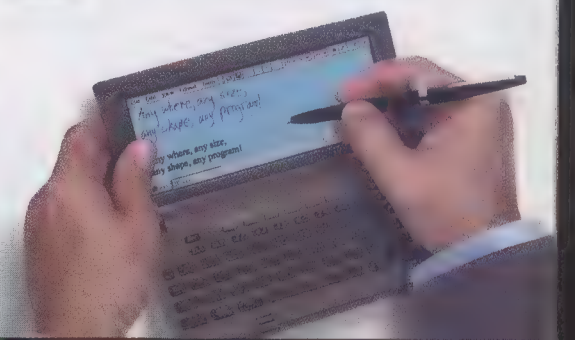


HOW TO Get Ahead

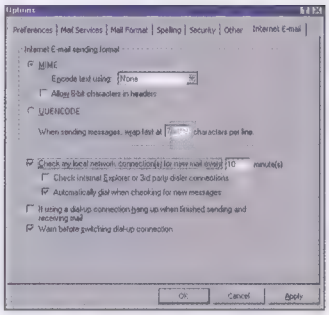
Browsing the Web feels like standing in line at the DMV. Go ahead, cut in. You don't need a 450MHz Pentium II PC or a T1 line to do it. All it takes is a few tricks, some slick Web resources, and a handful of smart utilities.

If you're not watching, your ISP is liable to shut you down. To minimize the load on their hardware, ISPs want to kill your Internet connection—usually because it's been inactive for a certain period of time. But you can fool an ISP into maintaining your connection. Which is one less thing to slow you down. Here are some instant ways to stay logged on.

Quick start. Make sure your Web browser's at your beck and call by adding a shortcut to your StartUp folder. To do it, right-click on your browser's shortcut icon, select Send To, select Any Folder, and click on Browse. Your StartUp folder's address is C:\Windows\Start Menu\Programs\StartUp. Make sure Copy is selected and click on OK.

You've got mail. Set your e-mail client to check for new mail every 10 minutes (or often enough to keep you connected). This trick is free, easy, and requires no new software. To make sure Microsoft Outlook 98 checks for new mail every 10 minutes, go to the Tools menu and select Options, Internet E-mail. Next check the box labeled Check My Local Network Connection(s) for New Mail Every __ Minute(s) and change the number value to 10. With Outlook Express, start from the Tools menu and select Options, then General to set the interval. In Netscape Messenger, from the Edit menu select Preferences, then Mail & Groups. Choose Mail Server and click on More Options. Select Check for Mail Every __ Minutes and change the interval to 10.

Turn on the radio. Not *that* radio. RealAudio radio programming. Listening to your favorite



Check Your Mail **Set Outlook 98 to retrieve e-mail every 10 minutes to keep your Internet connection alive.**

Easy Internet Connection

You'll hit a lot fewer Web speed bumps if you have the latest Windows Dial-up Networking software. The most recent is DUN 1.2. To check which version your system uses, go to the Windows/System folder, right-click on Rasapi32.dll, and select Properties. If 4.10.1537 doesn't display on the Version tab, you don't have 1.2. Download it at www.microsoft.com/windows/downloads/contents/Updates/W95DialUpNetw. Ignore the message that tells you to get the new version of Winsock before installing DUN 1.2. But be sure to install the Winsock2 DLL file afterward; get it at www.microsoft.com/windows95/info/ws2.htm.

Backdoor Browsing

The slowest part of Web browsing is waiting for pages to download. Speed things up by downloading your favorite sites in the background while you're doing something else. Intermark's WebSnake does just this. WebSnake pulls down the pages you want or an entire site. It'll even cull all the e-mail addresses from a site and dump them into a text file. WebSnake imports your Bookmarks or Favorites too. It costs $29.95, but you can download a free 30-day trial version at www.intermk.com/products.html.

Clock It

You can't really know how slow or speedy your connection is unless you time it. Download a couple of files of different sizes and time how long it takes (that's what the second hand on your watch is for). Then check out the Intel Owner's Club Download Calculator at www.intel.com/home/club/dlc.htm. Type in the file size and click on KB, MB, or GB. Voilà—the ideal time appears for all connection speeds. If your downloads took substantially longer, it's time to investigate.

Talk Radio **Listening to Internet programming with RealNetworks' RealPlayer keeps you logged on.**

Internet DJs keeps your connection buzzing. But if you prefer silence, click on the Mute button in the Volume Control dialog box. Just keep in mind that at connection speeds slower than 56Kbps, you really notice the boxing match between Web content and the radio feed. So pause the audio while actively browsing. To find out what's on, check out Yahoo's listings at www.yahoo.com/News_and_Media/Internet_Broadcasts/Audio/Radio/Stations. If you don't have RealAudio, download the free player at www.real.com.

Push it. Use Active Desktop or other push technologies to receive content just often enough to keep your ISP from cutting you off. Dave Central's Real Time/Push archive at www.davecentral.com/realtime.html is a great source for perusing your push options. But Active Desktop or PointCast adds a slight delay to your browsing with a slow modem.

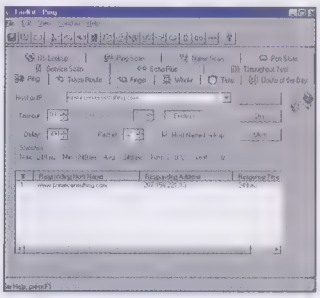
Use ping. Its name says a lot. Ping utilities create artificial activity to keep your Net connection from fizzling. There are several shareware ping utilities you can download and try for free. Here are some of the best. Get them all at www.pccomputing.com.

Internet Anywhere ToolKit 2.1. In addition to continuous pinging, this kit includes a wagonload of other useful programs like traceroute, Finger, Whois, Name Server LookUp, and more. The help file won't tell you this: To turn on continuous pinging, click on the Endless button on the Ping tab, then set the Delay interval to how many milliseconds you want to wait between pings. For example, to ping every five minutes, that's 60 seconds x 5 minutes x 1,000 milliseconds—so enter 300,000. At $14.95 it's a steal.

Stealth Ping. No matter how smart it thinks it is, your ISP isn't likely to outwit Stealth Ping. The tiny utility generates signals that your ISP's servers can't interpret as automatic pings. Stealth Ping costs $24.95.

Top Jimmy TJPing. Skip the freeware version—it doesn't include the auto-ping feature. For $12.50, get TJPingPro, which also features lookup and traceroute, and sits in your Windows System Tray.

NeoWorx NeoTrace. To figure out what's causing a holdup with your Web browsing or e-mail, use traceroute. It traces a data packet from your PC to your ISP—and shows all the twists and turns it takes to get there. NeoWorx's $19.50 NeoTrace offers traceroute and continuous ping. And you can view the trace as a flowchart.



Nonstop Action **Use ping utilities like Internet Anywhere to keep your connection active.**

Zap Dead Time

Waiting for Web pages to load wouldn't be quite so bad if you had something to do. Enter Zing. While Web pages take their sweet time, Zing provides short snippets of entertainment—music clips from Rolling Stone Network, fine art and photography, and even foreign language lessons. And it doesn't compete for bandwidth the way two open browser windows do. Best of all, it's free. Download it from www.zing.com.

Traffic Report

Your Net connection is a mess. Yesterday, 53Kbps. Today, you're lucky to reach 28Kbps. Before you waste time trying to fix what's beyond your control, check out these sites for an Internet traffic report. Link to them all at www.pccomputing.com.

The Internet Traffic Report
www.internettrafficreport.com

Internet Weather Report
www.internetweather.com

MCI Internet Traffic Report
traffic.mci.com

MIDS Internet Weather Report
www.mids.org/weather

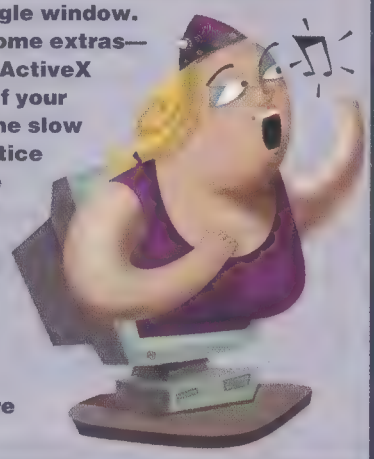
NetStat
www.netstat.net

UCLA Internet Weather Report
www.cns.ucla.edu/weather.html

WorldCom MAE Information
www.mfst.com/MAE

Make the Web Sing

Finally, a real alternative to Netscape Navigator and Microsoft Internet Explorer. It's Opera Software A/S's Opera 3.21—a zippy, full-featured browser that's svelte enough to fit on a floppy. Its slickest feature is its ability to open multiple Web pages in a single window. You give up some extras—like Java and ActiveX support—but if your system's on the slow side, you'll notice the difference in speed right away. You can download Opera, which costs $35 to register, at www.operasoftware.com.



Find the Fastest Server

Ever go to download a file only to be presented with a list of a gazillion different servers to choose from? Like you're supposed to know which is best. But there's a free utility called Dipstick (www.klever.net/kin/dipstick.html) that shows you in a flash. Drag each download link to the Dipstick window and it points out the server with the least traffic and fewest packet losses. Best of all, it's free!

Boost Your Connection

Here's one stop you won't want to miss: Windows 95/98 Misc. Dial-up Networking Tools (search.windows95.com/apps/98/dialup-misc.html) is the best site we've found for tools, add-ons, and how-to's to help you connect faster and hassle-free. Freeware and shareware utilities optimize your settings, send and receive e-mail faster, manage multiple connection setups, and put some zip into your modem. You can even find out how to use dual modems to kick your connection into warp speed. Here's a sampling:

DU Meter

Graphically displays your connection status and how you're using bandwidth. Is the download stuck? Is your e-mail software choking on a huge file attachment? DU Meter shows you at a glance.

MidPoint Teamer

Double up: Use two phone lines, two modems (or ISDN adapters), and two ISP connections to effectively boost your Internet connection speed. Pages display in a flash—downloads zip by like lightning!

MultiRAS

Another way to use two modems to speed up downloads with two connections. MultiRAS, a free utility, toggles the default IP route between the two connections, letting both modems download files simultaneously.

TweakDUN

This utility painlessly changes the Registry settings that control your TCP/IP connections and optimizes them for maximum throughput on the Internet. It also lets you maintain a local-hosts file so the sites you visit often don't require a query to a DNS server—a real timesaver.

Expand Your View

Stuck with a wimpy 15-inch monitor? First, start sweet-talking the guy in charge of purchasing. A 17- or 19-inch display should be on his next equipment order. While you're waiting, however, there are a few things you can do to boost how much stuff—text, graphics, and so on—you can view simultaneously in your browser window.

Show only one type of label. In Internet Explorer, go to the View menu and select Toolbars, then deselect Text Labels. In Navigator, go to the Edit menu and select Preferences, then Appearance. Choose Pictures Only or Text Only (this takes up less space) and click on OK.

Reduce font size. In Internet Explorer, select Fonts from the View menu, then choose a size. In Navigator, go to the View menu and select Decrease Font.

Consolidate toolbars. Move the Address Bar in Internet Explorer to the same horizontal plane as the Standard Buttons toolbar.

Turn off the status bar. In Internet Explorer, deselect Status Bar in the View menu. In Navigator, use the key combo Ctrl-Alt-S to toggle the status bar off and on.

Browse in full-screen mode. You'll either love or hate this view, but you'll see everything on wider Web sites. In Internet Explorer, select Full Screen from the View menu; to return to normal, click on the Full Screen icon or press F11. Navigator doesn't have this feature, but you can compress all toolbars to their shortest heights or run in Kiosk mode. To start Navigator in Kiosk mode, go to the Start menu and select Run. Type in *netscape -k* and click on OK. Just remember that when you use Kiosk you'll have to turn your preferred toolbars back on when you return to normal mode.

NETObjects™

What's the one thing your business can't live without? An effective Web site. So get NetObjects Fusion—the world's most award-winning site-building software that gives you the power and functionality you need to build a real e-site.

Open site environment. Gives you total choice and flexibility to use any content editor, connect to any database or application server, publish on any Web server (no server-side extensions required), and display pages in any browser—with exceptional ease.

Dynamic Database Publishing. Components included with NetObjects Fusion ProPack let you effortlessly publish up-to-the-minute data. Currently included are components for Lotus Domino, Allaire Cold Fusion, Microsoft Active Server, and Netscape LiveWire servers.

E-commerce components help you easily add powerful functionality to your site—such as online catalogs, merchant connections, and "shopping cart" features. NetObjects is working with a host of partners to deliver best-of-breed e-commerce solutions.

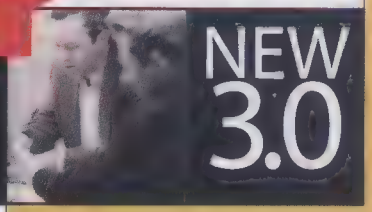
Best-of-both-worlds HTML. Work the way you want. NetObjects Fusion generates design-centric pages with pixel-perfect precision, and text-based HTML with ultra-lean code. Or, use any HTML editor to write your own code.

DHTML Actions help you sustain your customers' interest by letting you create sophisticated, message-based animation and interactive effects. Use powerful menu options or download our free DHTML Actions Development Kit to add your own custom JavaScripts to menus.

Everywhere HTML means you build your site once using NetObjects Fusion, then publish it anywhere, on any browser. Optimized to deploy on both Netscape Navigator and Microsoft Internet Explorer 4.x browsers, or choose any 2.x, 3.x, or 4.x browser.

Download a trial copy of NetObjects Fusion 3.0 today.

www.netobjects.com



e-business tools

When it comes to evaluating NetObjects Fusion, the industry experts have spoken:

* Price after rebate, assumed price of $295, less $100 Competitive Upgrade Rebate. To qualify you must purchase NetObjects Fusion 3.0 for Windows between 6/1/98 and 9/30/98. Visit www.netobjects.com for full details.

NetObjects Fusion 3.0 and NetObjects Fusion ProPack run on Windows 95 and Windows 3.51 NT systems or later. A Mac OS version is also available.

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Infolink 117 at: www.pccomputing.com/infolink

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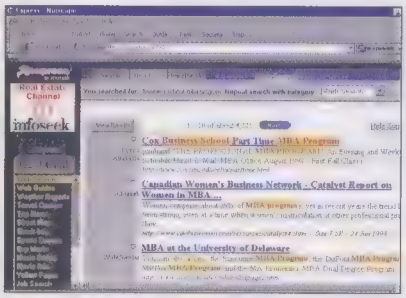
CompUSA 1-800-355-3947
ComputAbility 1-800-896-1181
Computer City 1-800-THE-CITY
MacConnection 1-800-986-2309, dept. NET2
PCConnection 1-800-986-2309, dept. NET2
Macwarehouse 1-800-255-6227
MacZone 1-800-252-0386, dept. NBM8
Microwarehouse 1-800-367-6808
PCZone 1-800-252-0386, dept. NBP8

FIND Anything—Fast

You can find just about anything on the Web—the capital of Malta, Mark McGwire's home run count, or how your 401(k) funds fared last quarter. Beyond search engines, there are sneakier ways to grab what you want in seconds.

You've tried six different search engines and revised your keywords at least that many times—and still no pay dirt. It's time to rethink your strategy. You can always continue to narrow your search by telling the engine to look only among current results. But that's not your only option. Check out our street-smart guide to finding things faster on the Net.



Good Find **Infoseek's Express, a free download, highlights search terms to help you find stuff faster.**

Super search. If you use only the two or three search engines you can name, it's time to branch out. Try searching multiple engines with the help of metasearch sites. Oddly enough, these conglomerates are often faster than the individual sites. Most let you choose which search engines you want to query. And some, like Dogpile, let you set a maximum time you're willing to wait for results. For a list of these super-search sites, check out "Monster Search" on page 170.

Express lane. For slower connections metasearch sites can take longer to return results than you're willing to wait. The solution? Besides investing in a faster modem, you can speed your search—and boost the number of on-target results—with Express from Infoseek. A free download at express.infoseek.com, Express works inside your browser (Navigator or IE 3.0 or higher) and lets you query all the main search sites. You create a custom results list by checking the box next to an item. Pages load faster because they download in the background as you check them off. Your search terms appear as highlighted words on every page. Plus grab stock quotes, news, sports scores, and lots more specific info from Express categories. Add your own categories too.

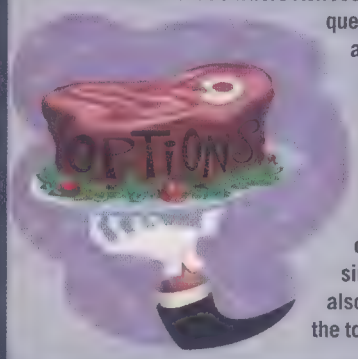
Secret source. Use a dead-on search result to find hidden keywords by peeking at a Web page's source code. To view its

Look Here First

Search engines can't penetrate sites that are protected by passwords or otherwise hard to get to—but you can, thanks to a site called Internets (www.internets.com). The site indexes thousands of databases on the Web and lets you get at them by keyword search or by browsing an alphabetical index. You can also use it as a jumping-off spot to other search engines.

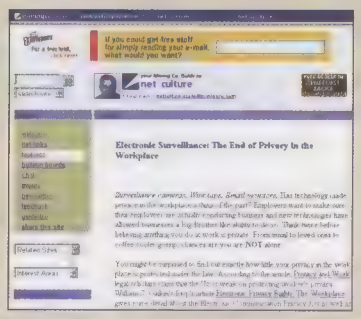
At Your Service

Sometimes the easiest way to find something is simply to ask for it. That's where Ask Jeeves comes in: Ask him a question and Jeeves returns a number of customizable options for nailing down information. For example, when you type in a question and click on Ask, you get your answer and/or a series of links that answer similar queries. Jeeves also returns matches from the top search engines.



Get the Good Stuff

Not sure if a site is worth your time? Let people who share your interests check them out first and give you the scoop. Guides at the Mining Co. (home.miningco.com) walk you through the best of the Net in their areas of expertise. Get right to the good stuff by searching the site, or browse by category if you've got a few minutes to spare.



Have You been to eBay™?

(the amazing new place to buy, sell, and collect)

Welcome to the place where millions of people have already found success. The place where you can hunt through about half a million items,

(that's a lot of stuff!)

where it's always the fun of the auction,

(YOU set the price!)

and where you're dealing with someone who loves the same stuff you do.

(who knows? You might make a friend!)

Welcome to eBay.

The online auction with 80,000 new things to see every day.

(you wouldn't want to miss a day!)

This is the one you've been hearing about – where millions of registered buyers and sellers get together to do business.

(what are you waiting for?)

So try it out – because even if you could find it somewhere else... what fun would that be?

here's how you get there

www.ebay.com

and click on Computers

eBay™

your personal trading community™

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Infolink 110 at: www.pccomputing.com/infolink

Graphics so realistic, so vibrant, they bite back.

Millennium G200
8 MB video card for uncompromising 2D/ 3D graphics

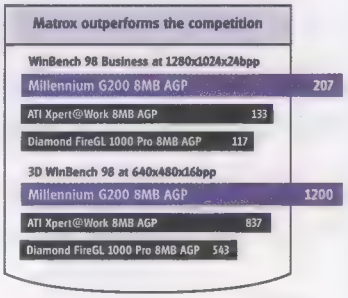
Rainbow Runner G-Series
Video editing and TV tuner upgrade

Matrox DVD Video
Hardware DVD upgrade

The Millennium G200 delivers breathtaking 2D/3D graphics that don't compromise on speed. Whether you're a corporate power user, a 2D/3D designer or a hard core gamer, the Millennium G200 video card has the graphics power to accelerate all your demanding applications. All with true color image quality that will take your breath away.

Its new Vibrant Color Quality rendering architecture processes 32-bit color at ultra-high resolutions, so you get crisp, vivid colors with incredible image detail. By combining the revolutionary MGA-G200 chip with up to 16 MB of high speed memory and AGP 2X support, you get the fastest integrated 2D, 3D, and DVD video card - *bar none*. And if that isn't enough, you can add on 8 MB of memory, video editing and TV tuning capabilities, and hardware DVD acceleration.

So even if you don't need to render monster size projects, Millennium G200 has everything you need for state-of-the-art performance. All at a price that won't take a big bite out of your budget.



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* All tests were performed without independent verification by Ziff-Davis. Ziff-Davis makes no representations or warranties as to the result of the tests. WinBench, 3D WinBench and WinMark are trademarks of Ziff-Davis Inc. in the US and other countries. All tests performed on a Dell Dimension XPS R400 configured with a 400Mhz Pentium II and 64MB of RAM. WinBench 98 Business run at 1280x1024x24bpp@75Hz. 3D WinBench 98 run at 640x480x16bpp@75Hz with DirectX 6.0 and Direct3D API set to Draw Index Primitive. Matrox Millennium G200 configured with 8MB of SGRAM for the AGP bus and using driver revision 4.21. Diamond FireGL 1000 Pro configured with 8MB of SGRAM for the AGP bus and using driver revision 4.10.01.2348. ATI Xpert@Work was configured with 8MB of SGRAM for the AGP bus and using driver revision 4.10.01.2411.

matrox

Infolink 153 at: www.pccomputing.com/infolink

HTML in Microsoft Internet Explorer 4.0, select Source from the View menu. This opens the page in Notepad. With Netscape Navigator 4.0, go to the View menu and select Page Source. HTML metatags look like this: <META NAME ="keywords" CONTENT="business, marketing, Internet, resource">.

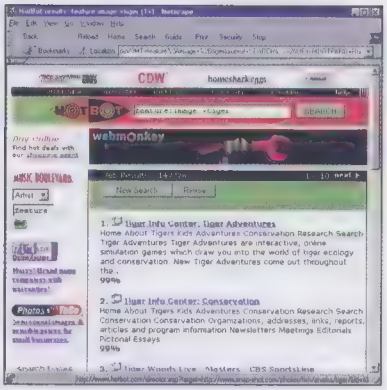
Word Master **Find synonyms for your search terms with the help of Roget's Thesaurus online.**

Go pro. Any search engine worth your time should provide an advanced search page to help you hone your query. Each search site is different, but most let you search by file type, location or domain name, date, and language. Each also has its own unique advanced search features. With HotBot, for example, you can use metawords to put the search engine's nontext search features to work. A simple metaword search looks like this: *keyword:value*. You can add or subtract words using a plus or minus sign to get more specific. For example, to find a page with a picture of a tiger on it, type in *feature:image +tiger*. For more info on HotBot's metaword feature, go to www.hotbot.com/help/tips/search_features.asp.

Open windows. When doing a Web search, keeping multiple browser windows open saves time by letting you multitask. Say you have a list of search results in window 1. To check out the most promising links without wasting time clicking back and forth, open up two more windows. Right-click on the first link and choose Open in New Window (this works in IE4 and Navigator 4.0). You just opened window 2. Press Alt-Tab to return to window 1 and repeat the right-click sequence; now you have window 3. With three windows open you can follow your primary lead in window 2 while links in window 3 are loading—and vice versa.

Small talk. Several search engines—including Ask Jeeves (www.askjeeves.com), Excite (www.excite.com), and Lycos Pro (lycospro.lycos.com)—support natural-language queries, which means you can simply type in the question you want answered. We asked all three *What is the population of Austin, Texas?* and received the same answer—465,622.

Quote me. To search for a series of words in a precise order, put quotes around the phrase. For example, to limit your results to Web pages that reference the *New York Times* (and not simply sites where *new*, *York*, and *times* may appear), type *"New York Times"* into the search field.



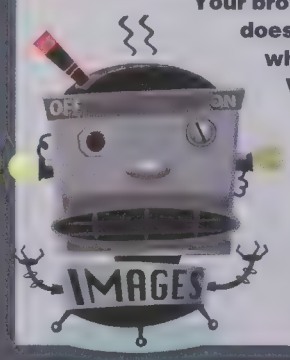
Zero In **Use advanced features like HotBot's metaword search to find exactly what you're looking for.**

Use synonyms. You'll get much more relevant search results if you enter many iterations of your search words. Let an online thesaurus help. Type a word into the Find field at www.thesaurus.com for a list of synonyms from *Roget's Thesaurus*.

Info for Pennies

You can't get everything for free. But you can grab content from newspapers, magazines, books, TV and radio transcripts, photos and maps, and more free for 30 days. Then you'll pay pocket change to continue the service. The source? Electric Library (www.elibrary.com). Once your 30-day trial is up, Electric Library charges $9.95 a month for unlimited access to millions of articles and information sources. Save even more with a $59.95 annual subscription.

Turn Off Images



Your browser displays Web pages 75 to 90 percent faster when it doesn't have to load graphics. Which means you'll save time while searching by turning off images. In IE4, go to the View menu and select Internet Options, then Advanced. Scroll to the Multimedia section, uncheck Show Pictures, and click on OK. (Or download Internet Explorer 4.0 PowerToys, which includes Image Toggler, a utility that lets you switch between text-only and graphics with a single click. Go to www.microsoft.com/ie/ie40/powertoys.) In Navigator 4.0, select Preferences from the Edit menu. Click on Advanced and deselect Automatically Load Pictures, then click on OK.

Monster Search

It's not like you have to forsake your favorite search engine. But why not beef it up by tossing in the resources other search sites offer? Metasearch sites let you search more than one engine at a time and integrate the results from each into a list sorted by relevance. Visit www.pccomputing.com to jump to these metasearch sites.

1Blink	www.1blink.com
2Q QuickQuest	www.2q.to
Cyber411	www.cyber411.com
Dogpile	www.dogpile.com
Flycatcher	www.fly-catcher.com
Highway 61	www.highway61.com
Internet Sleuth	www.isleuth.com
Mamma: The Mother of All Search Engines	www.mamma.com
MetaCrawler	www.metacrawler.com
Surfy	www.surfy.com
webtaxi.com	www.webtaxi.com

Lists of Lists

Take the headache out of keeping tabs on the electronic mailing lists that interest you. Bookmark these lists of lists—and use them to search among mailing lists and e-zines when you need to bone up on any number of topics.

Colorado Alliance of Research Libraries www.coalliance.org/ejournal
Search this group's electronic journal database for links to thousands of Web-based publications.

eZines www.dominis.com/Zines
This database of e-zines also maintains a monthly top 5 list, a top 100 list, and a 100 most-popular list.

Internet Scout New-List scout.cs.wisc.edu/scout/new-list
Keep track of mailing lists as they're created. View today's or this month's archives or subscribe to the New-List mailing list itself. You can search the entire archive, too.

Publicly Accessible Mailing Lists www.NeoSoft.com/internet/paml
It's been around since 1981, so you can imagine the size of its database. Look for mailing lists or check out the FAQ.

Vivian Neou's List of Lists catalog.com/vivian/interest-group-search.html
One of the largest databases of e-mail lists on the Web. Results tell you how to subscribe and give a short description of the list's focus.

WWW Virtual Library Electronic Journals List www.edoc.com/ejournal
From Ask the Master Plumber to Zipzap, you'll find lots of e-mail newsletters as well as publications and archives (online and print) here. Browse by category or search by keyword.

Find Your Specialty

You need to find a *Seinfeld* sound clip, a home remedy for poison oak, or the highest peak in Zimbabwe. Cut straight to the source of a boatload of specialized information. Link to all the sites in this list at www.pccomputing.com.

Dr. Koop's Community www.drkoop.com
Feeling under the weather? Get help from former Surgeon General Dr. C. Everett Koop's Web site. Scour its massive database of health-related information, or consult the exclusive drug-interaction database.

Information Please www.infoplease.com
Start your fact-finding mission here. Get the lowdown on just about anything—country profiles, scientific theories, sports stats, celebrities' birthdays, and other fascinating almanac-style tidbits.

Internet Movie Database us.imdb.com/search
Sure, you probably don't need to know the names of all the cast members who played ewoks in *Return of the Jedi*. But you can find out by searching the IMDb. It has other handy info too, like what a best boy really does.

KnowX www.knowx.com
You've heard of the Freedom of Information Act. Exercise your rights by searching public records at KnowX. Uncover criminal records, locate witnesses, search bankruptcy proceedings, and more. Troll the database for free during off-hours—or pay 50 cents per query between 11 a.m. and 6 p.m. EST.

The Law Engine www.fastsearch.com/law
Find out if it's legal for your pesky neighbor to own 15 cats. Start by browsing this handy index of legal references. If you're in a hurry, cut to the chase with a legal search at www.fastsearch.com/law/fsearch.htm#legal.

Northern Light www.northernlight.com
This search site lets you zero in on articles, product reviews, and press releases in addition to searching the Web. You'll pay for premium content—$1 to $4 per article—but you can read a summary before you buy.

Scour.Net www.scour.net
The first site exclusively for finding multimedia files. Click on Advanced to search by file type and location. The results list displays image thumbnails and links you directly to sound and video clips.

"When will I finally get the affordable, high-speed internet access I was promised?

DirecPC

"Right

How long have YOU been waiting?

If you've been holding out for the cable or telephone company to bring high-speed Internet access to your neighborhood, chances are it's been a while. Which is a shame, because if you'd chosen DirecPC, you could be surfing at up to 400 Kbps **right now**. That's up to 14 times faster than a standard 28.8 modem and almost three times faster than an ISDN line.

It's easy.

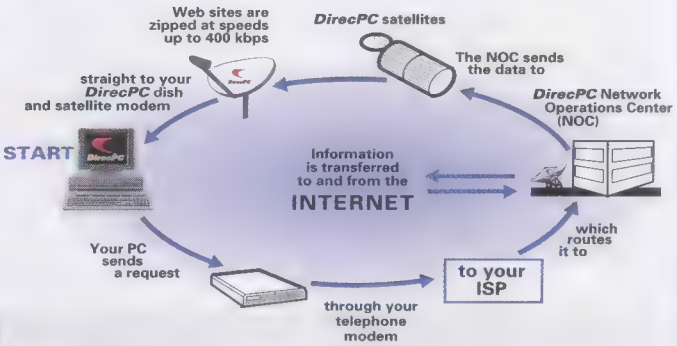
How do you get started? Just visit us at www.direcpc.com to find a retailer near you. If you can't find a store in the neighborhood, call us at 1-800-DIRECPC. We'll send you your dish, satelite modem, software and everything else you need. We can arrange professional installation for you, too. Either way, getting started is just a phone call or a mouse click away.

HARDWARE AS LOW AS

$199

How does it work?

The engineers at Hughes figured out that the real bottleneck in the speed of the Internet wasn't the request **out** to the Web — telephone modems handle that just fine. Everything slows down when the Web tries to use the telephone system to send you **back** the media-rich information you requested. So, we use a much faster satellite connection for sending you the Web content you want. Check out the diagram — this is the system that makes DirecPC the fastest Internet access available nationwide.



now."

DirecPC gets pushy.

Sure, you love the idea of surfing the Web at up to 400 Kbps. But what if you could get your favorite Web sites and Usenet Newsgroups delivered straight into your PC by satellite — **automatically**, without even having to tie up your phone line to ask for them? That's just what DirecPC's Turbo WebCast™ and Turbo NewsCast™ services do — so you're never behind on the news and information that's important to you. The best thing about these two services? They're **free** with your paid subscription to any Turbo Internet™ service package.

SERVICE AS LOW AS

$19.99 MO.

The good news.

No other high-speed Internet access provider offers so much for so little. Take a close look at our service pricing — we're sure you'll find a package you like.

Want TV with that?

We know what you're thinking: "If I'm going to put a dish on my roof, I might as well sign up for one of those satellite TV services, too." We agree! That's why, for a few dollars more, you can upgrade to our DirecDuo dish with your DirecPC satellite modem. Add a Hughes-brand DSS® receiver (or the DSS receiver you already own), and you get almost 200 channels of crystal-clear satellite TV from DIRECTV® as well as Turbo Internet from DirecPC. Just call 1-800-DIRECPC or stop by www.direcpc.com to find out more.

You already know how great the Internet is — you're just looking for a way to go faster. DirecPC is the fastest Internet access available nationwide. It's affordable, and it's available everywhere. So, if you're still plugging away with an old-fashioned telephone modem, you need to ask yourself:

What are you waiting for?

Service Plan Details	Residential		Business
Name of Service Plan	Executive Surfer	Family Surfer	Office Surfer
Price of Service Plan (Including ISP)	$29.99/Month	$49.99/Month	$129.99/Month
Price of Service Plan (Without ISP)	$19.99/Month	$34.99/Month	$109.99/Month
Hours of Service (Availability)	24 Hours a Day	24 Hours a Day	24 Hours a Day
On-Line Time (Hours of usage for Turbo Internet)	25 Hours /Month	100 Hours/Month	200 Hours/Month
Additional Hourly Rate (Including ISP) Additional Hourly Rate (Without ISP)	$1.99/Hour $.99/Hour	$1.99/Hour $.99/Hour	$1.99/Hour $.99/Hour
DirecPC Services			
Turbo Webcast: Broadcast delivery of popular Websites to your PC's hard drive	Included	Included	Included
Turbo Newscast: Broadcast delivery of up to 30,000 Usenet Newsgroups to your PC's hard drive	Included	Included	Included
Turbo Internet: Fully interactive access to the Internet at speeds up to 400Kbps	Included in Online Time	Included in Online Time	Included in Online Time
Free E-mail Accounts	1	1	4
Networking (Number of Seats)	N/A	N/A	4

1(800)DIRECPC
WWW.DIRECPC.COM

DirecPC™

$199 hardware price after DirecPC rebate. New Credit card customers only. Expires 12/31/98. $100 rebate posted to credit card upon service activation. 12-month commitment to service required. $100 cancellation fee charged to credit card if service canceled within 12 months. Cannot be combined with other DirecPC promotions. Executive Surfer and Family Surfer packages for single-user systems only and subject to Fair Access Policy and Subscriber Agreement. Speeds may vary. Not available in Alaska or Hawaii; requires line of sight to the southern sky.

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A HUGHES ELECTRONICS COMPANY

Infolink 345 at: www.pccomputing.com/infolink

WORK The Web

T1 line, check. E-mail, check. Company Web site, check. Think you've got the Internet covered in your business plan? Guess again. Cash in on free Web stores and ads, exclusive software freebies, and inside counsel from business experts.

Get started. Would you believe you can set up an online store in about 15 minutes? You can, with iCat Commerce Online. iCat isn't the only service like this—others include Yahoo Store, Virtual Spin Internet Store, CompuServe Interactive BusinessWeb, and GeoCities GeoShops. But iCat is the only one that offers a free 10-item online store. There's no pricey hardware to buy, and iCat provides the software. To add more merchandise, you have to pull out your checkbook. iCat charges from $49.95 a month for 11 to 50 items up to $349.95 a month for 3,000 items. What are you waiting for? Point your browser to www.icat.com. Under Want to Build an Online Store?, click on Build Your Own. Tell iCat to Create New Store.

Register. Type your store's name into the first field and a shorter version of the name into the second field. Keep in mind that the second name becomes part of your store's iCat Web address: www.icatmall.com/*yourfoldername*. On the next page, type in your account info—name, address, phone, and e-mail—and answer some questions about your business. Click on Next. Choose a username and password and click on Next. Finally, pick a size for your fledgling store. Select Free Stores and click on Next. Don't be alarmed by the page that appears—even for free stores, iCat requires that you enter a credit card number. Accept the terms (after reading them thoroughly, of course) and you're ready for the next phase—store design.

You're in Business **iCat lets you create a secure, 10-item cyberstore in 15 minutes.**

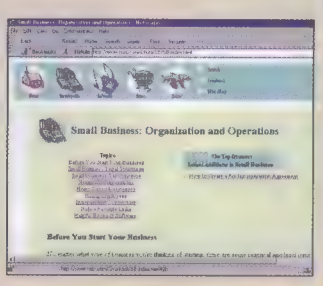
Choose your look. To select from the array of layouts and styles iCat supplies, click on Edit My Store, then on Store Design. iCat gives you the lowdown on the process in outline form; bone up on it or dive right in by clicking on Next. Make sure you have Java enabled in your browser or you won't be able to properly view your

Boost Your Business Apps

Never start with a blank page or worksheet again. KMT Software (www.kmt.com) offers enough templates and add-ons for your favorite software to keep you busy for weeks. KMT template packs cost from $20 to $100.

Fire Your Attorney

Before you pay $200 for your attorney to draft a simple contract, look to the Web for free legal advice. Nolo Press is an excellent source. At www.nolo.com, you'll find a section aimed at small businesses. Get free answers to some of the questions that have been keeping you up at night. Is your company's name legal? Can you negotiate a better deal on your lease? What exactly is a limited-liability company? How do you insure a home-based business anyway? Download a wealth of legal forms and kits for pocket change.



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Call (800) 876-4278 for your nearest AST reseller—the expert with solutions to all your business computing needs. And visit our website at www.ast.com for more detailed product profiles.

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Desktop video performance made mobile with blazingly fast 2X AGP 3D graphics and an Intel® Pentium® II mobile processor 300MHz. Unmatched security features are also included.

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The new HP Idea Kit, *Show Your Family and Friends You Care,* has software, how-to's and even special paper so you can make gifts from the heart. Check out the fun little booklet next to this page to get started. Fill out the order form below to get the whole kit, including our gingerbread cookie recipe.

Plus, print great projects right off the Web:
www.hp.com/go/printsville

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Your friends after HP Idea Kits.

To receive your new HP Idea Kit, show your *Family & Friends* you care

Purchase: Any HP inkjet print cartridge
Fill in: Name and address information at right
Enclose:
1) This mail-in certificate
2) The UPC symbol (bar code including the numbers 88698) from the HP inkjet print cartridge package
3) A $2 check made out to *HP Idea Kits* for shipping and handling

Mail to: HP Idea Kits F&F
P.O. Box 7276
Mankato, MN 56006-7276
Postmark no later than January 31, 1999

MAIL-IN CERTIFICATE: Offer Expires January 31, 1999 **M12**

Name

Address

City State Zip

E-mail address

What model HP DeskJet printer do you have

at home? model # at work? model #

Which version of Windows® do you have?* 3.1 ☐ 95 ☐ 98 ☐

*Sorry, not available for Mac™ OS or Windows® 98.

May HP contact you with more information?

yes ☐ no ☐

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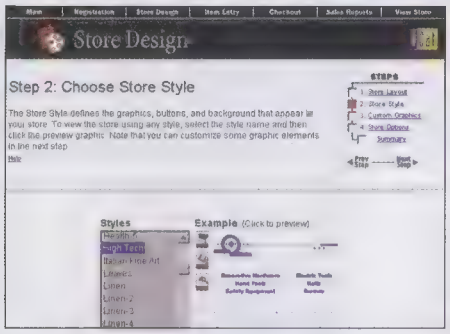
If you have any questions regarding this offer, please call the HP Award Center at 1-612-467-1450, from 7:00 a.m. to 6:30 p.m. CST, Monday through Friday.

Allow 8 weeks for processing. While supplies last. Offer good in U.S. only and void where prohibited, taxed, or restricted by law. Only purchases by end-user customers from authorized HP resellers qualify for offer. HP reserves the right to request additional information and to confirm identity of submitter. Providing false information disqualifies this claim, and may subject the submitter to criminal prosecution. Order must be postmarked between 9/15/98 and 1/31/99. Only original proofs of purchase (UPC symbols) may be submitted. Limit one kit per household.

HP Idea Kits
If you can imagine it, you can print it



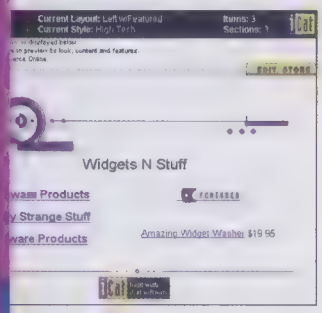
Online Image **Choose from a variety of design templates to find the right look for your store.**

you. Click on Finish to begin the process of Order Entry. Remember that you can view your store at any point in the process. Just click on View Store.

Add catalog items. To sell items in your

point too. Now click on Finish and repeat the process for each additional item. When done, click on Main to proceed to the final step. Slogging through all these screens is a bit tedious, especially if you're simply accepting the default setup. To save time, iCat lets you import product info from a tab-delimited file and provides an Excel spreadsheet template you

specify which credit cards you accept and how to format currency, how much you charge for shipping, your state's sales taxes, what information you want from your customers, and finally, whether or not you want to send or receive e-mail order confirmations. Click on Finish. At this point it's a good idea to view your store and do any editing or refinement.



g Touches **Preview your at any time before going live.**

Once you're satisfied, pen your doors to the ublic by clicking on Yes next to Store Open nd next to Store in Mall.

share gifts with Friends

Make homemade gifts from the heart using your HP DeskJet printer.

HP Idea Kits
If you can imagine it, you can print it.

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creen saver featuring the ipe out your hard drive with a rself with antivirus software. berger's Computer Virus Myths e e've

Your friends before HP Idea Kits.

Brighten someone's day today.

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Plus, print great projects right off the Web:
www.hp.com/go/printsville

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Your friends after HP Idea Kits.

How time flies

What do friends give you that other people don't? Friends give you the benefit of the doubt, the time of day, a hand when you need it, an opinion, respect and a smile just when a smile would make your day. Now give your friends something special in return. A handmade gift from the heart.

This booklet and the complete HP Idea Kit show you how. **To get the kit, fill out the order form on the back of this booklet.** Then you'll have the software, instructions and special paper to make gifts you'll love to share with friends.

Calendars

Making your own calendar is easy using the calendar feature in *Mindscape® PrintMaster™ Gold 4.0.* Use twelve of your favorite photos, one for each month of the year. If you don't have a scanner, use one at a copy center near you. Or, if your photos are already computer files, start at step ❺.

What you need:

Adobe® PhotoDeluxe™
Mindscape® PrintMaster™ Gold 4.0
HP Photo Paper
HP Premium Heavyweight Inkjet Paper

❶ Open *PhotoDeluxe* and click *On Your Own.* Click *Get Photo.* Click *Scan Photo.* Choose *TWAIN.* In the *PictureScan Task Manager,* make sure the *Pictures* button is selected.

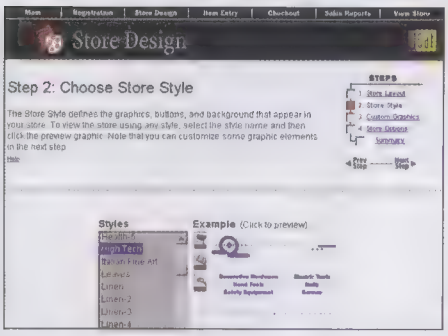
❷ Click *Scan* for a preview of the image. Use the *Crop* and *Sharpen* tools, if necessary. Click *Accept* to complete the scan.

❸ Click *Modify,* the *Quality* tab, then *Instant Fix.*

❹ In the *File* menu, scroll down and click *Export.* Click *File Formats* and choose *JPG.* Close *PhotoDeluxe.* Repeat steps ❶ to ❹ for your remaining photos.

❺ Open *PrintMaster Gold* and click *Brand New.* Click *Poster, Tall* or *Wide* and *Finish.*

❻ Click ❻. Pull down the *File* menu in the *Art Gallery* window. Click *Open from Disk.* Find your photo and double-click it to open it. Resize it by clicking on a corner handle and dragging. To move it, click and drag it into position.



Online Image **Choose from a variety of design templates to find the right look for your store.**

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point too. Now click on Finish and repeat the process for each additional item. When done, click on Main to proceed to the final step. Slogging through all these screens is a bit tedious, especially if you're simply accepting the default setup. To save time, iCat lets you import product info from a tab-delimited file and provides an Excel spreadsheet template you

specify which credit cards you accept and how to format currency, how much you charge for shipping, your state's sales taxes, what information you want from your customers, and finally, whether or not you want to send or receive e-mail order confirmations. Click on Finish. At this point it's a good idea to view your store and do any editing or refinement.

❼ Click and click on the page to make a text box. Go to the font menu, choose a font and size, and type a caption.

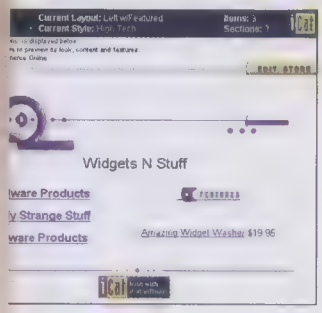
❽ To move the text box, place the cursor between two of the selection handles, hold down the mouse button and drag. To make the text a color, select it by clicking at one end and dragging to the other end. Click and choose a color.

❾ Place a sheet of HP Photo Paper in the printer tray, glossy side down for most inkjet printers. Pull down the *File* menu and click *Print*. Under *Setup*, make sure the *Best* print quality is selected in the printer *Options*. Click *Print* again.

❿ Close the file and click *Brand New*. Scroll down to *Calendar*. Choose *Tall* or *Wide* to match the orientation of your photos. (They should all be the same orientation.) Select *Monthly* as the type of calendar and then select the month and year. Click *Finish*. Add important dates and little graphics using .

⓫ Now print out each month on the back of the photos you've already printed. Put each photo into the printer tray, printed side up for most inkjet printers. Click *Print*. Under *Setup*, make sure *Best* quality is selected in *Options*. Click *Print* again.

⓬ Make a cool cover using HP Premium Heavyweight Inkjet Paper. Start a new document in *PrintMaster Gold*, add a headline and print it. Then take all the pages to a copy center and have them spiral bound so the photos are at the top and the months hang underneath, facing out.



g Touches **Preview your at any time before going live.**

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ax?

screen saver featuring the ipe out your hard drive with a urself with antivirus software. berger's Computer Virus Myths e e've

Your friends before HP Idea Kits.

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Plus, print great projects right off the Web:
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Your friends after HP Idea Kits.

Make priceless jewelry

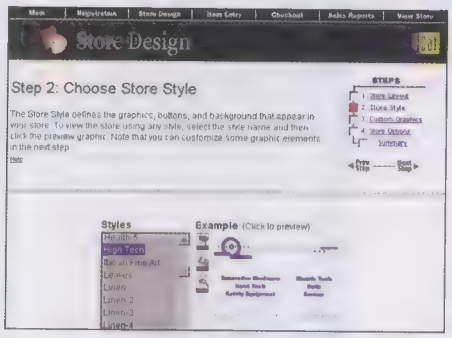
If you think that making custom jewelry on your HP DeskJet printer seems a little ambitious, think again. You'll be delighted by the earrings and pins you can easily make from scratch. In fact, follow these instructions and you can make all your birthday and holiday gifts in an afternoon.

Pretty pins and barrettes

What you need:

Mindscape® PrintMaster™ Gold 4.0
HP Premium Photo Paper (included in kit)
Self-adhesive laminating sheets (included in kit)
Pin backs (included in kit) and barrette backs
Craft glue from any craft store

1. Open *PrintMaster Gold* and click *Brand New*. Click *Poster, Tall* and *Finish*.
2. To make our jewelry, we used the drawing and text tools, but you can also use clip art or you could import a photo. Just remember that whatever you use will end up being very small, so avoid images with a lot of detail because, as they get smaller, they will be less distinct.
3. To draw in *PrintMaster Gold*, use the , , , and tools. It may take a little practice but it's worth it.
4. To scan a photo or an illustration, follow the instructions (steps 1 to 5) on page 1.
5. To use the clip art in *PrintMaster Gold*, click . There are over 13,000 images, so type in a keyword and search for the images you like.
6. To add text, click to make a text box. Type your text. Double-click it and pull down the font menu to choose a style you like. Click to make it fit into the text box. Then, when you reduce the text box, the type will reduce, too.
7. When you have a design you like, pull down the *Edit* menu and click *Select All*. Pull down the *Arrange* menu and click *Group*. Then hold down the *Shift* key (this prevents the image from being distorted) and click on one of the corner handles. Drag the mouse button in until the image is no bigger than two inches square. Use the rulers in *PrintMaster Gold* to guide you. Then save it. Make more images and put them on the same page. When you have a page full of images, print it out.
8. Put a sheet of HP Premium Photo Paper in the printer tray, glossy side down for most inkjet printers. Pull down the *File* menu and click *Print*. Click *Setup*, then *Options* and make sure the *Best* print quality is selected. Click *Print* again.
9. Cut out each image with scissors or a craft knife. Peel the backing off a self-adhesive laminating sheet and lay each piece face down on the sheet. If you can, fit them onto half of one sheet. Fold the sheet over the images and press it flat. Otherwise, use a second sheet of laminate to cover the back. Trim around each piece again.



Online Image **Choose from a variety of design templates to find the right look for your store.**

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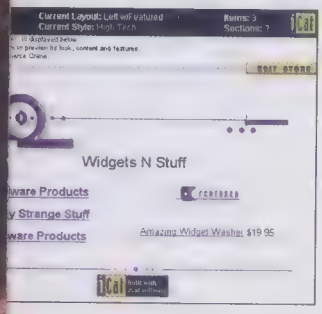

5 Touches **Preview your at any time before going live.**

Once you're satisfied, pen your doors to the ublic by clicking on Yes next to Store Open nd next to Store in Mall.

For dangling earrings, drill very small holes through both the paper and the laminate. Use jump rings between the earrings and the wires to make them hang correctly. This step can be a little tricky. A pair of small jewelry pliers makes the job much easier. For earrings on silver posts, put a dab of glue on the back of the laminated earring and glue it to a post.

Earrings to match

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Plus, print great projects right off the Web:
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Your friends after HP Idea Kits.

Life's a puzzle

How's this for a truly unusual gift idea? Iron a photo onto a jigsaw puzzle and give it to someone special. Choose an image which fits their unique interests (like cycling, gardening, fishing...), or iron on a photo of family and friends. All you need for a very thoughtful gift is an iron-on jigsaw puzzle and a cool image.

Mindscape® PrintMaster™ Gold 4.0
Adobe® PhotoDeluxe™
HP Iron-On T-Shirt Transfers
Iron-On Jigsaw Puzzle
(available in two sizes from Dharma Trading Company, call 1-800-542-5227 for a catalog)

1. Start *PrintMaster Gold*, click *Brand New, Poster, Tall* or *Wide* (depending on the orientation of your image), and *Finish*.
2. To use a photo on a puzzle like the one on this page, follow the scanning instructions for *Calendars* (steps 1 to 5) on page 1.
3. For clip art, click and search through the 13,000 images to find an image you like.
4. When you have a design you like, pull down the *Edit* menu and click *Select All*. Then pull down the *Arrange* menu and click *Group*. To adjust the overall size of the image, hold down the *Shift* key (this prevents distortion) and click on one of the corner handles. Drag the handle in or out to make your image slightly larger than the size of the puzzle.
5. With your image still selected, pull down the *Arrange* menu again and click *Mirror left to right*.
6. Place an HP Iron-On T-Shirt Transfer in the printer tray, striped side up for most inkjet printers. Pull down the *File* menu and click *Print*. Under *Setup*, make sure the *Best* print quality is selected under the printer *Options*. Then click *Print*.
7. Using iron-ons can be a little tricky, so it's well worth practicing on some scraps of fabric to find the correct amount of pressure and heat you need to make a successful transfer. Follow the instructions that come with HP Iron-On T-Shirt Transfers **exactly**.
8. With iron-on jigsaw puzzles, you need to press down very firmly on the iron to make sure the ink is transferred onto the edges of each jigsaw piece. Also, don't leave the iron in one place for too long or the ink will dry out and look cracked when you remove the transfer paper.
9. When you are done, allow the puzzle to cool and then break it into pieces.
10. How about a pretty gift bag to put it in? Go to Printsville on the Web and click *Party and Gift Shop*. Download and print one of several cool gift bag designs.

www.hp.com/go/printsville

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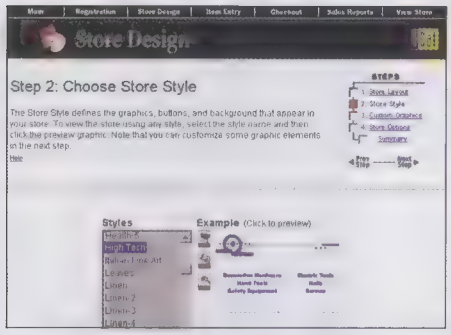

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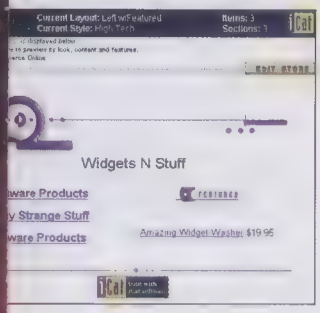
specify which credit cards you accept and how to format currency, how much you charge for shipping, your state's sales taxes, what information you want from your customers, and finally, whether or not you want to send or receive e-mail order confirmations. Click on Finish. At this point it's a good idea to view your store and do any editing or refinement.



g Touches **Preview your at any time before going live.**

Once you're satisfied, pen your doors to the ublic by clicking on es next to Store Open nd next to Store in Mall.

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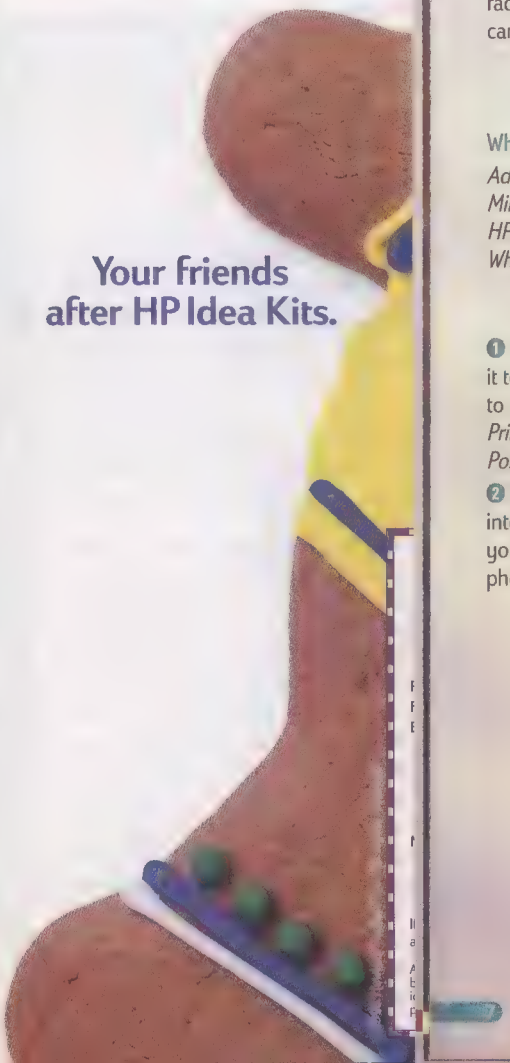


Your friends after HP Idea Kits.

Iron-on fun

Iron-on transfers are great for making personalized gifts. Transform anything made from plain white fabric into a work of art. Make your own designs from scratch to iron onto napkins, baby clothes, holiday stockings, even boxer shorts! In fact, you can add your designs to anything you can iron.

Ties, boxers, anything

What you need:

Adobe® PhotoDeluxe™
Mindscape® PrintMaster™ Gold 4.0
HP Iron-On T-Shirt Transfers
White or very pale clothing or other fabric items (available from the Dharma Trading Company, call 1-800-542-5227 for a catalog)

1. Decide on your design and how big you want it to be. It's well worth making a rough drawing to make sure your design will work. Then open *PrintMaster Gold* and click *Brand New.* Click *Poster, Tall* and *Finish.*

2. To make our designs, we scanned illustrations into our computer and used the text tools, but you can also use clip art or you could import a photo. You could even draw something right on your computer using the drawing tools. Or, use a combination of all the options.

3. To draw in *PrintMaster Gold,* use the , , , and tools.

4. To scan a photo or an illustration, follow steps 1 to 5 on page 1.

5. To use the clip art in *PrintMaster Gold,* click . Type in a keyword and search for the images you like. Or simply start scrolling through them all and see what jumps out at you.

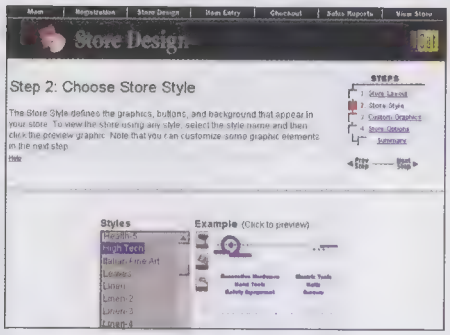
6. To add text, click and make a text box. Type your text. Select it by double-clicking it. Pull down the font menu and choose a style you like. Click to make it fit into the text box. Enlarge or reduce the text box to resize the type.

7. When you have a design you like, pull down the *Edit* menu and click *Select All.* Then pull down the *Arrange* menu and click *Group.* To adjust the overall size of the image, hold down the *Shift* key (this prevents the image from being distorted) and click on one of the corner handles. Drag the handle in or out to make your image the size you want it to be.

8. With your image still selected, pull down the *Arrange* menu again and click *Mirror left to right.*

9. Place an HP Iron-On T-Shirt Transfer in the printer tray, striped side up for most inkjet printers. Pull down the *File* menu and click *Print.* Under *Setup,* make sure the *Best* print quality is selected under the printer *Options.* Then click *Print.*

10. When it has printed, iron it onto your item of clothing **exactly** following the instructions that come in the pack of HP Iron-On T-Shirt Transfers. Depending on the item of clothing, you may need to print more than one transfer. Ironing transfers onto clothing can be a little tricky and it's well worth practicing on some scraps of fabric before you transfer the real thing.



Online Image **Choose from a variety of design templates to find the right look for your store.**

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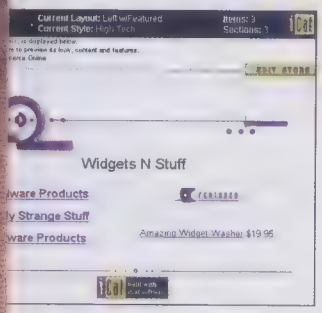

g Touches **Preview your at any time before going live.**

Once you're satisfied, pen your doors to the ublic by clicking on es next to Store Open nd next to Store in Mall.

Wrap it up

After you've made your gifts, wrap them up in paper you make yourself. Use the same pattern you used for your gifts. Open a new document in *PrintMaster Gold*, make your pattern repeat all over the page and then print out as many as you need to wrap the gift. If you need more than one sheet, tape them together using invisible tape before wrapping the gift.

More gifts fit to print

Now that you've come this far, keep going to Printsville on the Web! In Printsville, the town of unlimited printing possibilities, you can download and print over 70 great projects instantly. There's everything from calendars and letterhead designs to party supplies and greeting cards. Around Printsville, if you can imagine it, you can print it. **www.hp.com/go/printsville**

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Your friends after HP Idea Kits.

Show your hand

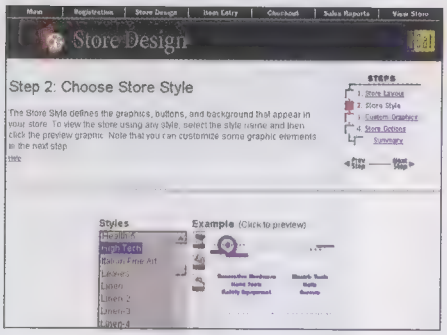
You've probably never thought of making your own deck of cards. But think how much fun it would be to make those special people in your life the jack, queen, king and joker on the face cards. Use our templates in the HP Idea Kit and add your own photos. Just follow these instructions.

Mindscape® PrintMaster™ Gold 4.0
Adobe® PhotoDeluxe™
HP Photo Paper

1 First, take or find the photos you want to use. Scan them into *PhotoDeluxe* to do some work on them before positioning them onto the cards.

2 Follow steps 1 to 3 for *Calendars* on page 1 to scan your photos.

3 Delete the background. Click the *Edit* tab. Under the magnifying tools on the left of the screen is a window with a tab that says *Select*. Click the down arrow and choose the *Trace tool*.



Online Image **Choose from a variety of design templates to find the right look for your store.**

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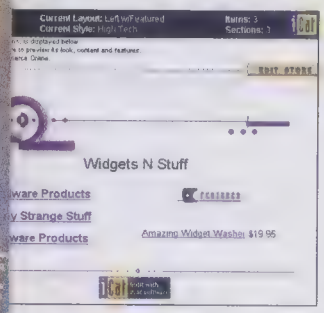

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INDIVIDUAL WORKS OF ART, CREATED BY YOU.

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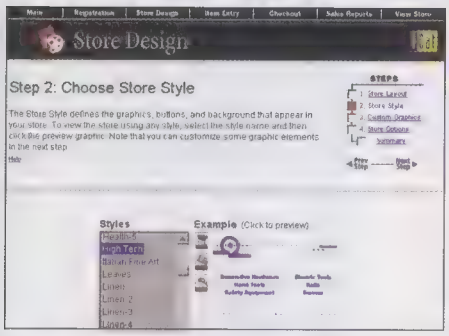

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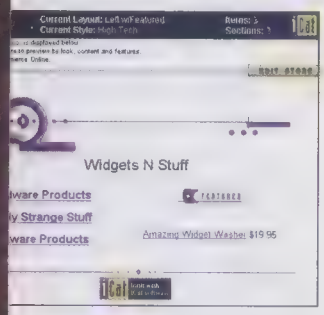

g Touches **Preview your at any time before going live.**

Once you're satisfied, open your doors to the public by clicking on Yes next to Store Open and next to Store in Mall.

8 Click and trace around the edge of the image, holding down the mouse button.

9 Now your image has a broken line all the way around it. If it doesn't follow the outline exactly, click on the *Add* or *Reduce* option of the *Trace Tool* and redraw the area you want to change. Click to delete the background.

10 Pull down the *File* menu and click *Export*. Click *File Formats* and save the photo as a *JPG*. Close *PhotoDeluxe*.

11 Open *PrintMaster Gold* and click *Your Projects*. In the *Project Gallery* window, pull down the *File* menu and click *Open from Disk*.

12 Find the *Template* folder on Disc 1 in the HP Idea Kit and open it. Double-click the files called *facecrd1* and *facecrd2* to open them.

13 Click and, in the *Art Gallery* window, pull down the *File* menu and click *Open from Disk*. Find the photo you exported from *PhotoDeluxe* and double-click it. To move it, click on it, hold down the mouse button and drag. To resize it, click on a corner handle, hold down the *Shift* key (to prevent distortion) and drag in or out. Crown each one with clip art from *PrintMaster Gold*.

14 Repeat step 9 for each face card photo. Put a sheet of HP Photo Paper in the printer tray, with the shiny side up for most inkjet printers. (You'll be printing the numbers and face cards on the matte side of the paper.) Pull down the *File* menu and click *Print*. Set the printer to *Best* quality and click *Print*.

15 Use a repeating design on the card backs. If you're using a photo, scan it by following steps 1 to 5 on page 1. Bring it into *PrintMaster Gold* and make it the same size as the printable area of the entire page. Put the sheet you just printed into the printer tray, matte side up for most inkjet printers. Click *Print*.

16 Print the remaining cards by opening and printing the *cards1*, *cards2*, *cards3*, *cards4* and *cards5* files in the *Template* folder on Disc 1 in the HP Idea Kit. Follow step 13 to finish them off.

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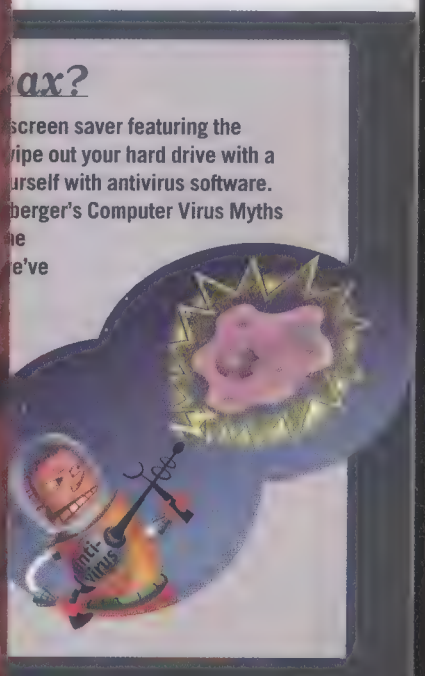
Recycled

Snack Time

Here's something to chew on while you're thinking about which card to play next. Grandma's gingerbread cookies are about the best we've tried. Enjoy!

1/2 cup butter	1/2 cup sugar
1/4 tsp salt	1 egg
1/2 cup molasses	1 tbsp vinegar
3 cups all-purpose flour	3/4 tsp baking soda
2 tsp ground ginger	1/2 tsp ground cinnamon

Cream butter, sugar and salt. Stir in egg, molasses and vinegar. Chill 3 - 4 hours. Roll out to 1/8" thick on lightly floured board. Use a gingerbread cookie cutter to cut out the cookies and place them on a lightly greased cookie sheet about 1 inch apart. Bake at 375° for about 8 minutes. Allow to cool before removing from cookie sheet. Pipe icing onto them to make faces and clothes. Use red hots for eyes and buttons. To find everything you need to have a gingerbread cookie decorating party, visit Printsville at **www.hp.com/go/printsville**.



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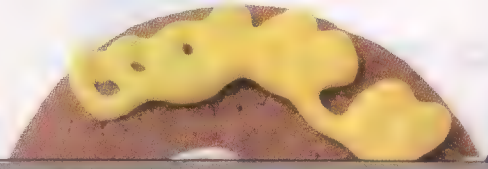

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NEW HP Idea Kit

Over a dozen easy projects to delight your family and friends. Plus special paper samples and HP templates.

PC software on CD-ROM:
Adobe® PhotoDeluxe,™
Mindscape® PrintMaster™ Gold 4.0
and Hanes® T-ShirtMaker.™

(Software runs on Windows® 3.1 and 95.
Sorry, not available for Mac™ OS or Windows® 98.)

Look for more HP Idea Kit projects on the Web:
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To receive your new HP Idea Kit, show your *Family & Friends* you care

Purchase: Any HP inkjet print cartridge
Fill in: Name and address information at right
Enclose: 1) This mail-in certificate
2) The UPC symbol (bar code including the numbers 88698) from the HP inkjet print cartridge package
3) A $2 check made out to HP Idea Kits for shipping and handling
Mail to: HP Idea Kits F&F
P.O. Box 7276
Mankato, MN 56006-7276
Postmark no later than January 31, 1999

If you have any questions regarding this offer, please call the HP Award Center at 1-612-467-1450, from 7:00 a.m. to 6:30 p.m. CST, Monday through Friday.

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What model HP DeskJet printer do you have at home? model # at work? model #
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school projects ☐ presentations ☐ brochures/flyers ☐
Will you use this kit for business? ☐ for home? ☐
Do you have a scanner? yes ☐ no ☐
Do you have a digital camera? yes ☐ no ☐
May HP contact you with more information? yes ☐ no ☐

*Sorry, not available for Mac™ OS or Windows® 98.

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Allow 8 weeks for processing. While supplies last. Offer good in U.S. only and void where prohibited, taxed or restricted by law. Only purchases by end-user customers from authorized HP resellers qualify for offer. HP reserves the right to request additional information and to confirm identity of submitter. Providing false information disqualifies this claim, and may subject the submitter to criminal prosecution. Order must be postmarked between 9/15/98 and 1/31/99. Only original proofs of purchase (UPC symbols) may be submitted. Limit one kit per household

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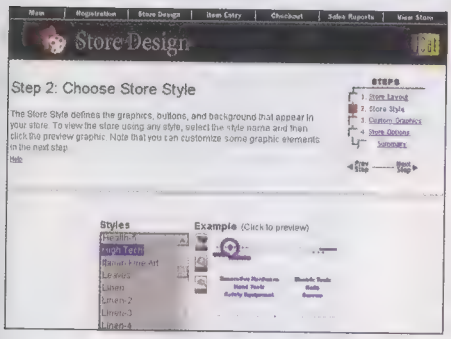
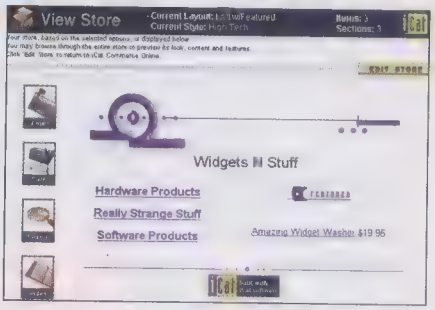


Online Image **Choose from a variety of design templates to find the right look for your store.**

choices. First choose your layout, then your style. In the window that follows, select iCat graphics that match the style you've chosen, or upload your own. For example, to upload your company logo (which must be 300 by 500 pixels), click on Upload Custom Graphic in the Company Logo row. A handy file-transfer wizard does the work for you—just browse to the folder on your hard drive where the logo file is, select the file, and click on Go. When done, click on Next. Select preferences for receiving e-mail from customers, displaying your mailing address or a link to your other Web site, showing custom welcome and footer text, and entering keywords so search engines can find you. Click on Finish to begin the process of Order Entry. Remember that you can view your store at any point in the process. Just click on View Store.

Add catalog items. To sell items in your online store, you must create one or more sections—categories under which each product fits. Type in each section name and a short description. Click on Save, then on Next. To add more sections, select New and repeat the process of adding names and descriptions. iCat recommends that stores with only a few items stick to only one section. Finally, add up to 10 products you will sell in your online store. To do so, click on Item List, then on Add Item. In a succession of screens, describe the item, select the section it goes under, upload a photo of it, and designate whether it's on sale or a promotional item. In the fifth screen you see a summary; you can make changes at this point too. Now click on Finish and repeat the process for each additional item. When done, click on Main to proceed to the final step. Slogging through all these screens is a bit tedious, especially if you're simply accepting the default setup. To save time, iCat lets you import product info from a tab-delimited file and provides an Excel spreadsheet template you can download to smooth the process. To do it this way, click on Import Items instead of Add Item.

Head to checkout. Before you can start raking in the big bucks online, you have to put the finishing touches on your store. From the main screen, click on Checkout Options, then on Next. In the pages that follow, specify which credit cards you accept and how to format currency, how much you charge for shipping, your state's sales taxes, what information you want from your customers, and finally, whether or not you want to send or receive e-mail order confirmations. Click on Finish. At this point it's a good idea to view your store and do any editing or refinement.



Finishing Touches **Preview your iCat store at any time before going live.**

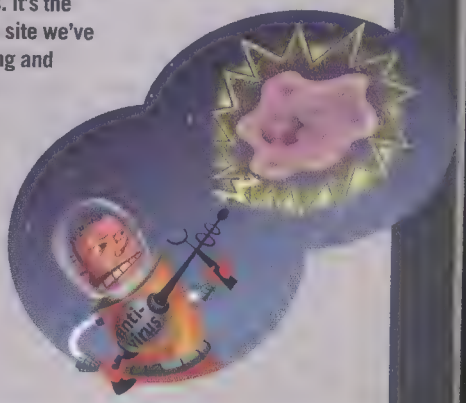
Once you're satisfied, open your doors to the public by clicking on Yes next to Store Open and next to Store in Mall.

Use Word As Your Web Editor

Why pay for stand-alone Web publishing software when you can use Microsoft Word instead? Get the latest Word 97 Web Authoring Tools Update (officeupdate.microsoft.com) and start building sharp-looking Web sites in Word. The update lets you check for broken links and choose from new templates, graphics, and backgrounds. Easier uploading to the Web too.

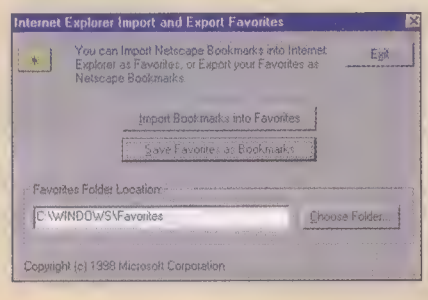
Danger or Hoax?

Worried about a nefarious screen saver featuring the Budweiser Frogs that can wipe out your hard drive with a double-click? First, arm yourself with antivirus software. Next, check out Rob Rosenberger's Computer Virus Myths at kumite.com/myths. It's the most comprehensive site we've found for documenting and demystifying all the latest viruses—real or imagined. And you'll breathe a little easier knowing that many viruses—like Budsaver.exe—are pure make-believe.



Smooth Browser Switch

Whether you're switching from Netscape Navigator to Microsoft Internet Explorer or vice versa, Microsoft has a free utility that smooths the process. Grab the IE Import and Export Favorites Tool from www.microsoft.com/msdownload/ieplatform/favtool/favtool.asp. It lets you convert Bookmarks to Favorites or Favorites to Bookmarks. So you can switch forever—or use both. Another utility, Coolware's BrowserSwitch, lets you change default browsers with a mouse-click. Check it out at www.coolware.com/switch; it costs $19.95 to download.



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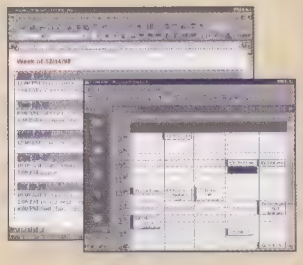
Free publicity is free money. Download three Word 97 press release templates from Microsoft at officeupdate.microsoft.com. Each of these templates is professionally laid out with titles, graphics, and step-by-step instructions for getting your message out to the press. Cost to you? Zilch.

Print Your Own Stamps

That's practically what you're doing with StampMaster's Internet Postage, available now for beta testing in limited areas. The software is free, and it integrates into your company's existing electronic addressing system. You pay a small service charge to buy postage electronically from the U.S. Postal Service. Find out more about Internet Postage at www.stampmaster.com.

Calendar Makeover

Printing your calendar from Microsoft Outlook 98 makes you yearn for your old paper-based planner. The upcoming Outlook 2000 is your ticket to easier printing, but in the meantime there's another option: Use Word. First download the free Automated Calendar Template for Word and Outlook from officeupdate.microsoft.com. This utility lets you feed your monthly Outlook calendar into Microsoft's word processor. Then use Word's endless formatting options to make your calendar a readable work of art.



Slash Your Ad Budget

Slapping together a few Web pages with your company logo won't put you in the Internet Fortune 500. Which is not to say you have to throw piles of cash at a tech-savvy ad firm to register your site with top search engines and place key ad banners on popular portal sites. There are plenty of sources for free marketing on the Web. But they're not all created equal. The best starting point is SiteOwner.com at siteowner.linkexchange.com. Here's a sample of what you'll find:

Submit Your Site to Search Engines

Use Submit It. It's free to register your site with seven major search engines. Or pay $60 to get the word out to 400-plus search sites.

Free Site Inspection

Type in your Web address and tell LinkExchange to run up to seven different tests on it—from design to broken links to search-engine and browser compatibility. Even run a spell-check.

Instant Metatags

Type your site's name, description, and any applicable keywords and let the Meta Tag Builder instantly construct a text string to add to all your Web pages. That way the search engines will know where to find you.

Banner Ad Exchange

Place your ads on up to 250,000 other sites—in exchange for posting other companies' ads on yours. You'll pay nothing for beaucoup exposure.

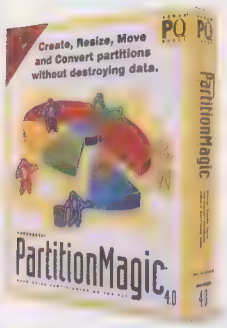
Free Domain Name Registration

Go directly to site.register.com for this—and beware that it's not totally free. InterNIC charges you $70 for two years, but register.com charges nothing for the service of registering your domain.

Does the thought of no partitions terrify you?

(No wonder your computer keeps freezing up.)

Create, Resize, Move and Convert partitions with PartitionMagic® 4.0



PartitionMagic 4.0 works with Windows 98 and includes a free copy of BootMagic. Buy it now and get $15 back from PowerQuest.

Visit your local software reseller or call 800-379-2566 or +1-801-437-8900 for details.

You couldn't operate without partitions. What makes you think your computer can? Partitioning your hard drive plays an essential role in maintaining your computer—preventing conflicts, protecting data, and dramatically improving efficiency. Best of all, partitioning lets you reclaim up to 40% of your wasted hard-drive space! And now, with even greater functionality and ease of use, PartitionMagic 4.0 puts all the benefits of hard-drive partitioning within easy reach of anyone. Create and resize partitions on the fly without losing data. Effortlessly move applications between partitions, converting from FAT to FAT32 and back again. Or use BootMagic,™ included with your purchase of PartitionMagic, to manage and switch between multiple operating systems. Whatever the task, PartitionMagic will help you get it done! So don't get caught with your pants down. *Get PartitionMagic*.

Partitioning better organizes and protects your data and makes running multiple OSs safe and easy!

www.powerquest.com

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Infolink 308 at: www.pccomputing.com/infolink

STEALS And Deals

You want to save money. But you'd never buy a Rolex from a street vendor. The Web's riddled with cheap imitations and worthless incentive programs. But you'll also find fabulous deals and free merchandise you can actually use.

Sub-$1,000 PCs are old news. How does a $399 desktop system sound? Or a $989 notebook? You'll find amazing deals on PCs and other hardware on the Web. Where? At Web discount houses, auctions, and even the top system-makers' sites. Before you buy, check out these resources for the best deals. You'll find links to them all at www.pccomputing.com.

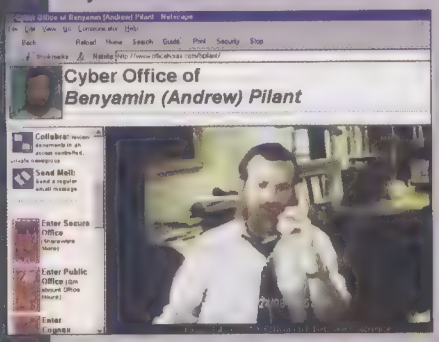
New to you. The big-gun PC makers want your business. Why else would they offer factory-refurbished systems and peripherals at eye-popping low prices? We found the best deals on systems from Acer, Compaq, Dell, Gateway, Hewlett-Packard, IBM, and Sony. Compaq offers more than just refurbished computers and monitors; if your timing's right, you can snag savings on overstocks too. Sony's Factory Outlet site sells refurbished and customer-returned PCs, notebooks, monitors, and peripherals like digital cameras. Check out the HP Shopping Village to save on handheld PCs and printers. Dell's Online Outlet offers the same three-year warranty and 24-hour tech support on refurbished systems that it offers on new ones.

Ultra-affordable PCs. If you're looking for an inexpensive desktop system to use at home to check e-mail, surf the Web, and run standard business apps, we found two answers: Both PowerSpec and PrecisionTec offer desktop PCs for $399. And their affordable price doesn't mean they're dinosaurs. PowerSpec's 2021 offers a 233MHz Cyrix MediaGX processor, a 2.1GB hard drive, 32MB of RAM, and a 33.6Kbps modem. The system comes loaded with Windows 98 and a handful of Microsoft apps. The only catch? You have to buy the monitor separately. Check it out at www.powerspec.com. The PrecisionTec Gazelle is scaled down in comparison, with a 180MHz IDT processor, a 1.2GB hard drive, and 16MB of RAM. It bundles Windows 95. You can buy the Gazelle—monitor sold separately—at www.precisiontec.com.

Going, going, gone. Online auctions are sprouting up like subdivisions along the interstate. They're not all created equal, however. And reports of Web-auction scams are enough to make some people a little leery. But if a 166MHz Pentium Dell

Open an Internet Office

The going rate for office space is $50 per square foot per month. But you can take your business to the Web for much less—only $14.95 per month, thanks to OfficeHours Business Systems (www.officehours.com). Your employees, partners, and customers can visit your cyberoffice anytime to send you messages, join discussion groups, view an events calendar, or sign up to receive your electronic newsletter. Office Hours puts everything you need at hand—10MB of server space, Netscape's Suite Spot 3.5 software with Calendar Server and Collabra, and Majordormo, which handles your mailing lists. It supports videoconferencing too.



Graphics 101

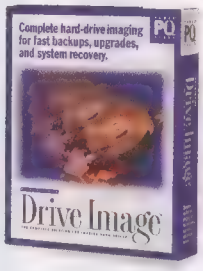
Take a free crash course at Web Graphics on a Budget (mardiweb.com/web). It's the best place to bone up on how to use Jasc's Paint Shop Pro 5.0—which you can download to try free for 30 days at www.jasc.com—to make your Web site sizzle. Don't know feathering from fills? No matter. With Mardi Wetmore's free interactive tutorials—not to mention complementary buttons, wallpaper, rules, icons, and more—you'll be cranking out slick-looking graphics in no time.

Make Your Own Junk Food

Want to know how to make mac and cheese that tastes just like your favorite dish at Boston Market? Fried chicken just like KFC's? How about baking your own batch of Thin Mints? Check out CopyKat Creations at www.copykat.com, where you'll find recipes for taste treats you usually have to leave home to get.

Crash. Boom. Bang. Click.

A click of a button and you're up and running again.



From the makers of PartitionMagic®

Your hard drive blew up. You lost your tax spreadsheets. Your addresses. That critical business proposal. Not to mention your sanity. You had your whole life contained in a few gigs. Which is why it's a good thing you used Drive Image™ from PowerQuest®. In minutes, you were able to make a complete backup of your hard drive on a Zip®, JAZ®, or almost any other removable media. When disaster struck, you simply reloaded the copy of your hard drive and you were back in business. No hassles. No missing preferences, partitions or passwords. No problems. Just a click of a button and your computer was restored to its exact state before the crash. It's that simple.

And what's more, Drive Image is also:

Easy–A user-friendly interface makes it easy to manage your saved files. And a step-by-step wizard simplifies the backup process.

Fast–Drive Image can now create a compressed image of your hard drive up to eight times faster than before. Plus, with its patent-pending SmartSector™ technology, Drive Image can copy significantly faster than traditional backup methods.

Safe–Drive Image now features ImageShield™ password protection and encryption to protect critical information. It also automatically checks disk integrity and looks for bad sectors to prevent data loss from occurring.

Flexible–You can quickly restore your whole hard drive or recover individually selected files. Drive Image also allows you to "span" across removable media, such as Zip®, JAZ®, and SyQuest® drives.

Now, restoring your hard drive is as easy as blowing it up.

For more information about Drive Image, or to learn about additional licensing options, call 1-800-379-2566.

Get $15 cash back from PowerQuest.
Ask your reseller for details.

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www.powerquest.com
Infolink 307 at: www.pccomputing.com/infolink

POWER PQ QUEST

Latitude notebook for $989 or a Lexmark color ink-jet printer for $75 sounds good to you, it's worth it. Especially now that companies like TradeSafe, i-Escrow, and Trade-direct exist to secure the transaction between you and the auction company. There are hundreds of auction sites on the Web; we like the combination of selection, price, and easy navigation at OnSale and eBay. Online classifieds are another source for used PCs and peripherals You can see what's for sale across the nation or zero in on your area or zip code. Check out Yahoo Classifieds. Classifieds2000 lets you search auctions and classifieds at the same time.

Internet exclusive. Extremely low overhead. That's the secret to iDot.com's wallet-pleasing prices on desktop systems, monitors, DVD drives, and more. It's the first online PC store built specifically to peddle its wares on the Web. If you're in the market for a new system, you'll like what you see. The UnderGrand section offers well-stocked systems for—what else—under $1,000. Register as an iMember to get advance notice of deals in the pipeline. And even though your order is processed electronically up to the point where a person packs your system to send out, you can talk to an iDot.com customer service or tech support rep anytime of day or night via telephone.

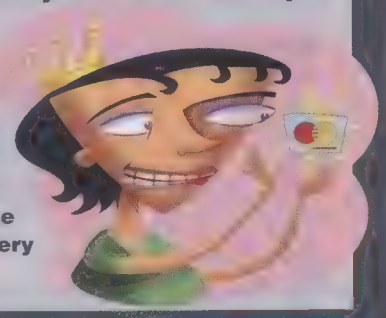
Comparison shop. You could spend hours checking out every discount PC and peripherals dealer on the Web—we've had good luck at www.cdw.com, www.compare.net, and www.cyberianoutpost .com. Or you could compare prices offered by different online vendors with a single click. Not a problem, thanks to www .bottomdollar.com. Select a category, type in your keywords, and in seconds you have a list of products that meet your criteria, their prices, and links to more info and how to buy. And the site compares more than just hardware and software: Get the lowest prices on books, music CDs, sporting goods, and more.

Rent to own. Your small business can't throw money around—but you still need the latest technology to stay on the fast track. That's where Gateway's Your:)Ware program comes in. You buy a Gateway system—latest processor, monster hard drive, loads of memory, and fastest graphics acceleration—and use it to run your company for two years. Then Gateway gives you fair-market trade-in on an upgrade to a faster system. So you can stop worrying that the 450MHz Pentium II box you're planning to buy today will seem as outdated as a 486 machine a couple years from now.

Contributors: LESLIE AYERS, MICHAEL BANKS, LEE HUDSPETH, T. J. LEE, *and* CHRISTINE GRECH WENDIN.

Plastic Pays

That MasterCard credit card in your wallet can land you big discounts, premiums, and special deals when you buy select products online or at certain stores. Drop in on the MasterCard Hot Deals page (www .mastercard.com/hotdeals) and find out how you can use your card to save money every time you shell some out.

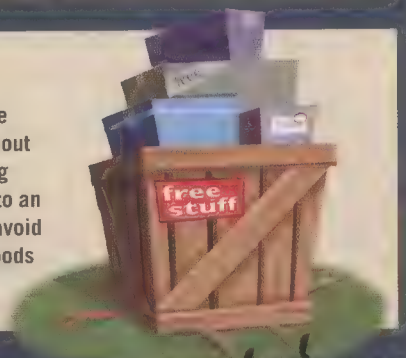


Attention, Coupon Shoppers

Neighbors stole the supermarket coupons out of your Sunday paper again? You'll have to get up earlier next week to catch them in the act. But in the meantime, check out ValuPage (www.supermarkets.com) to retrieve some of the grocery discounts you missed. Enter your zip code and select your favorite store, then print. You can even edit your coupon page to select only the ones you want.

Free Stuff

It's not something you'd ever admit to your neighbors, coworkers, or even your best friend: You like getting stuff for free. Stop looking over your shoulder; your secret's safe with us. The Web is all about something for nothing, with sites that catalog free samples, Web ads, graphics, electronic greeting cards, PC games, and more. A good example is The Free Site (www.thefreesite.com), which links to an impressive collection of gratis goods. Check out its Anonymous Freebies section for free ways to avoid being recognized when you're browsing. For a broader range of freebies and deeply discounted goods and services, check out Volition's free stuff area at www.volition.com/free.html.



Why make hard-drive upgrades a leap of faith?

Get DriveCopy.™

Copying from one hard drive to another can be a difficult task for anyone, not to mention a huge waste of time. Fortunately, DriveCopy 2.0 from PowerQuest® provides a solution that's quick, easy and affordable. Using the wizard-driven interface, you can choose to copy either selected partitions or the entire hard drive directly to your new drive. In minutes, every preference, setting and byte of data is transferred without risk, hassle or guesswork. It's really that simple–and that safe! So get DriveCopy 2.0 today and make tedious upgrades just another fish story.

Works with Windows® 95 and 98

THE FASTEST, EASIEST WAY TO COPY ONE HARD DRIVE TO ANOTHER.

For more information about DriveCopy, visit our web site or contact PowerQuest at 1-800-379-2566 or +1-801-437-8900.

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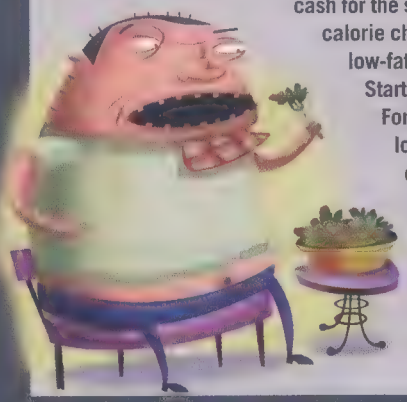
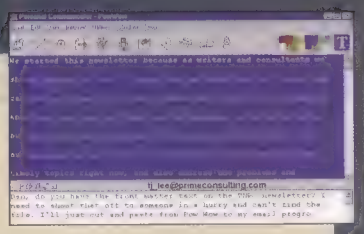
POWER PQ QUEST

Fight Fat



Weight Watchers isn't cheap. But you might not need to shell out the cash for the special food, classes, and calorie charts. Find help switching to a low-fat diet on the Web instead. Start with the Low-Fat Lifestyle Forum (www.mardiweb.com/lowfat), which offers eating and cooking tips plus recipes that withhold the butter but not the taste. For more on healthy eating, exercise, and all the ways to lose weight under the sun, check out WeightLoss2000.com.

All Talk



Slash your long-distance bills and cancel three-way calling. PowWow, a free download from Tribal Voice, notifies you instantly when your friends and colleagues go online. Send compressed voice messages (1 minute takes up just 15K) or instant pop-up messages, give real-time tours of your Web site, share files, and play games. For $49.95 a year you can host and control your own community, which lets you conference up to nine other people in a chat room or hold full-duplex voice sessions. Download it at www.tribal.com.

Web Bargains

Online shopping is not a fluke. And Web merchants have finally figured out what keeps us coming back: online exclusives. Plus goods and services you can't get anywhere else. If you haven't bought on the Internet before, these sites will change your mind.

The Auction Guide www.auctionguide.com
Search for the type of merchandise you seek—antiques, computers, rare books, whatever. Or post what you're looking for and have auctioneers contact you.

Barnes & Noble www.barnesandnoble.com
Don't walk in off the street and pay list price when you can go online and get books discounted up to half off. Bestsellers, kids' books, computer books, and software—Barnes & Noble has what you're looking for.

Edmund Scientific www.edsci.com/consumer
The coolest stuff you ever saw from chemistry sets for the kids to laser levels for the weekend carpenter.

Fridgedoor.com www.fridgedoor.com
For the person who has everything. Fridgedoor.com has more types and styles of refrigerator magnets than you ever thought existed.

Internet Airfares www.air-fare.com/promos.htm
Attention frequent fliers: Don't miss this collection of links to travel sites offering deep discounts as well as special travel deals and promotions.

Internet Cigar Group www.cigargroup.com/deals
The Internet Cigar Group's page of links to amazing deals on stogies and accessories, like humidors.

Make More Money

Go ahead, fire your broker. There's plenty of free investing information from reputable sources on the Web. Paying someone else to check on stats that you can get yourself doesn't make economic sense.

Big Tipper www.bigtipper.com
You could stay home and watch CNBC all day, read the *Journal* from front to back, then comb the Web for more clues from financial analysts and tipsters. Or you could go to Big Tipper for a synopsis of the experts' latest investment ideas.

The Motley Fool www.fool.com
Follow the 13 Foolish Steps to making your fortune on the market. (Hint: Investing Foolishly is a *good* thing.)

Mutual Fund Investor's Center www.mfea.com
Wondering why your funds aren't performing? Why you pay through the nose in fees and extra charges? Check this site for lists of funds with the best returns, lowest fees, lowest minimum investments, and more.

Quicken.com www.quicken.com
Track portfolios and plan for college, retirement, and home, car, and business purchases.

Thomson Investors Network RTQ rtq.thomsoninvest.net
Unlike other Internet quotes that are delayed at least 15 minutes, Thomson RTQ offers free, up-to-the-second quotes.

Quantex customers are happier than IBM, Gateway, or Micron customers.[1]

Are you?

intel inside
pentium® II PROCESSOR

[1]Results based on a Windows Magazine (Aug. '97) 'Technical Support Survey' in which Quantex received a 91% 'Buy Again Rating,' higher than that received by IBM, Micron and Gateway and on PC Magazine (July '98) 'Service and Reliability Survey' in which Quantex received the highest ratings for its customers' 'Tech Support Experience' in 4 out of 5 categories including 'tech was knowledgeable, tech tried everything to help, prompt resolution and got a run-around.' Calculations based on 25 vendors evaluated in the survey.

It's about time you

Quantex Notebooks feature the Intel® Pentium® II processor

Today, Quantex is one of the world's largest direct marketers of computer systems, featuring the Intel® Pentium® II processor. And in the last year, Quantex has consistently placed at or near the top in surveys of customer satisfaction and tech support. As well as winning dozens of product rating awards in the most respected publications.

As more businesses and experts say good things about Quantex, you're bound to wonder, "How good can they be?" There's one way to find out.

DELL NUDGES OUT QUANTEX BY 1% FOR CUSTOMER SATISFACTION. QUANTEX CUSTOMERS VERY HAPPY. MANAGEMENT NOT[1].

OK. We may not be number one in total customer satisfaction yet, but we're real close. And we can do better. That's why so many people who have bought Quantex say they'll buy Quantex again. And do. And they tell others. How else could we get this big when most people still don't even know our name?

WOULD YOU BUY AGAIN?

Vendor	% who would buy the same brand
Dell	92%
Quantex	91%
IBM	89%
Micron	81%
Gateway	80%
Acer	74%
Digital	69%
Toshiba	61%
Compaq	58%
Packard Bell	51%

Windows Magazine, 8/97

QUANTEX RATED NUMBER ONE IN TECH SUPPORT. #2-#25 NEED TO TRY HARDER[2].

In the most recent *PC Magazine* study, PC owners rated Quantex the leader for tech support based on their own experiences. For the technical knowledge of our people and the promptness of the resolution, no one beat Quantex. And no one came within 10 points

COMPUTER SHOPPER 1997 Direct Channel Achievement Award

PC COMPUTING 1997 Most Valuable Product Award

PC COMPUTING 5 Star Rating (10/98)

PC WORLD Best Buy Award (10/98)

PC WORLD Best Buy Award Award (9/98)

PC WORLD #1 Best Buy Award (8/98)

PC WORLD #1 Best Buy Award (7/98)

PC WORLD #1 Best Buy Award (6/98)

[1]Results based on a Windows Magazine (Aug. '97) 'Technical Support Survey' in which Quantex received a 91% 'Buy Again Rating,' higher than that received by IBM, Micron and Gateway.

experienced Quantex.

Quantex Desktops feature the Intel® Pentium® II processor

for "tech tried everything to help." Not Dell. Not Gateway. Not Micron. Not IBM. Not Compaq.

Hey, we may not be a household name yet. So we go the extra mile. And our customers notice it.

TECH SUPPORT EXPERIENCE

Vendor	Tech was knowledgeable	Tech tried everything to help	Prompt resolution	Got a run-around
Quantex	**57%**	**59%**	**49%**	**9%**
Micron	56%	47%	43%	9%
Gateway	54%	48%	45%	10%
Dell	54%	43%	49%	10%
IBM	41%	33%	36%	15%
Compaq	37%	30%	30%	17%
Average*	**40%**	**33%**	**32%**	**16%**

"Service and Reliability Survey," PC Magazine, July 1998
* calculations based on all 25 PC vendors evaluated in the survey.

QUANTEX SYSTEMS KEEP WINNING. COMPETITION AT A LOSS.

Obviously, it takes a lot more than great support to generate great customer satisfaction. And more than VERY competitive prices. It takes great computers featuring the Intel Pentium® II processor. And Quantex configures them with industry-standard "enhancements" that make Quantex systems regular winners in the "best buy" category.

CALL TODAY AND ORDER QUANTEX

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PC WORLD	PC WORLD	WINDOWS MAGAZINE	C|NET ONLINE	C|NET ONLINE	PC PORTABLES	PC COMPUTING	PC COMPUTING
Best Buy Award (5/98)	Best Buy Award (4/98)	WINLIST Award (7/98)	Editors' Choice Award (8/98)	Editors' Choice Award (6/98)	Best Buy Award (3/98)	4-star "Torture Test" Survivor (4/98)	4-star Rating (9/98)

'Results based on PC Magazine (July '98) 'Service and Reliability Survey' in which Quantex received the highest ratings for its customers' 'Tech Support Experience' in 4 out of 5 categories including 'tech was knowledgeable, tech tried everything to help, prompt resolution and got a run-around.' Calculations based on 25 vendors evaluated in the survey.

intel inside pentium® II PROCESSOR

Systems with better

BETTER MANAGEABILITY MEANS BETTER PRODUCTIVITY FOR YOUR BUSINESS.

Quantex Business Desktops bring enterprise management technology, traditionally implemented by large corporations, to businesses of all sizes–including yours. Built according to industry-standard initiatives such as Wired for Management, DMI 2.0, PC '98, LDCM and ACPI, these desktops are designed to lower your total cost of ownership. They also incorporate capabilities for improved asset management, remote wake-up of systems over the LAN and remote configurations and diagnostics. Plus, our innovative QSentry technology assures unsurpassed confidence and security by constantly monitoring the health of Quantex PCs. If you want to do something more productive, install Quantex Business Desktops. **Starting at just $999**

LCD FLAT PANEL DISPLAY

Looking to provide your business with a better view? Quantex gives it to you right between the eyes with this state-of-the-art 15" LCD monitor with on-screen controls. Engineered with the most advanced technologies, this active matrix TFT flat panel produces clear, crisp pictures with bright vivid colors. And a 15.0" viewable area that outperforms many large screen monitors. Including landscape and portrait modes. All this while saving approximately 75% of the desk space and up to 70% of the power used by traditional CRT's.

Quantex Notebooks: How do you define performance?

THE "T" SERIES:
Think bigger. Carry smaller.

Get the full force of today's state-of-the-art mobile technology in a lean, 1.45-inch thick, 6.4-pound notebook. Large crisp displays—up to 14.1"—make presentations come to life and eliminate the need for large external monitors. And with its flexible, single swappable drive bay it has the superb combination of features and functionality perfect for any type of mobile business environment. The Quantex T-Series: start packing more by carrying less. **Starting at just $1999**

THE "I" SERIES:
It just doesn't get any better.

For extreme mobile computing power and performance, the Quantex I-Series is as good as it gets. It boasts a big 14.1", 1024x768 display, a fast mobile Pentium® II processor 300MHz, and a built-in dual drive bay design so you can rip through work like spreadsheets, presentations, email and more. With a 2x DVD-ROM drive and AGP with hardware 3D graphics acceleration, the I-Series delivers exceptional multimedia excitement, including movies and 3D presentations complete with sound and animation. With its uncompromising performance and extreme power, it doesn't just replace your desktop. It humbles it. **Starting at just $2399**

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QP6/333 SB-1c $999

Business lease: $35/Mo.

- Intel® Celeron™ Processor 333MHz
- 32MB SDRAM Memory / 128KB Secondary Cache
- 4.3GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- 15" Digital Monitor (13.8" viewable)
- 64-bit 3D PCI Graphics Card with 4MB RDRAM
- Intel Pro 10/100 PCI Ethernet Controller w/RJ-45 and Wake-On-LAN Technology
- 32X Max EIDE CD-ROM Drive
- 2 Universal Serial Bus (USB) Ports / DMI 2.0
- Quantex ATX Mid Tower Case
- MS Natural Keyboard Elite with MS Mouse
- MS Windows 98
- 3-year limited warranty with 1-year On-Site Service*
- 24-hr./7-day Technical Support
- QSentry Technology (Including Intel LANDesk Client Manager V.3.1)
- *Upgrade to Windows NT Workstation 4.0 for $99*

QP6/333 SB-1(w/ Pentium® II Processor).....$1099

QP6/350 SB-2 $1499

Business lease: $53/Mo.

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- 64MB PC100 SDRAM Memory / 512KB Secondary Cache
- 8.4GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- 17" Digital Monitor w/ OSD (15.8" viewable)
  Upgrade to 17" Monitor w/NEC CromaClear CRT for $79
- Intel740™ 3D 2X AGP Graphics with 8MB SDRAM
- Intel Pro 10/100 PCI Ethernet Controller w/RJ-45 and Wake-On-LAN Technology
- 32X Max EIDE CD-ROM Drive
- 2 Universal Serial Bus (USB) Ports / DMI 2.0
- Quantex ATX Mid Tower Case
- MS Natural Keyboard Elite with MS IntelliMouse
- MS Windows 98
- **Microsoft Office '97 SBE Ver 2**
- 3-year limited warranty with 1-year On-Site Service**
- 24-hr./7-day Technical Support
- QSentry Technology (Including Intel LANDesk Client Manager V.3.1)
- *Upgrade to Windows NT Workstation 4.0 for $99*
- *Add 56K V.90 Fax/Modem* for $39*

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QP6/400 SB-3 $1799

Business lease: $63/Mo.

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- 64MB PC100 SDRAM Memory / 512KB Secondary Cache
- 8.4GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
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- Intel740™ 3D 2X AGP Graphics with 8MB SDRAM
- Intel Pro 10/100 PCI Ethernet Controller w/RJ-45 and Wake-On-LAN Technology
- 32X Max EIDE CD-ROM Drive
- 2 Universal Serial Bus (USB) Ports / DMI 2.0
- Quantex ATX Mid Tower Case
- MS Natural Keyboard Elite with MS IntelliMouse
- MS Windows NT 4.0 Workstation
- **Microsoft Office '97 SBE Ver 2**
  Upgrade to MS Office '97 Professional for $199
- 3-year limited warranty with 1-year On-Site Service**
- 24-hr./7-day Technical Support
- QSentry Technology (Including Intel LANDesk Client Manager V.3.1)
- *Add 56K V.90 Fax/Modem* for $39*
- *Upgrade to 15.0" LCD Flat-Panel Display for $549*

QP6/350 SB-3(w/ Pentium® II Processor).....$1599

QP6/450 SB-4 $2199

Business lease: $77/Mo.

- Pentium® II Processor 450MHz/100MHz Front Side Bus
- 64MB PC100 SDRAM Memory / 512KB Secondary Cache
- 10.2GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- **19" Monitor w/ OSD** (18.1" viewable), 1600x1200, .26dp
- **#9 Revolution IV 128-bit 3D 2X AGP Graphics with 32MB**
- Intel Pro 10/100 PCI Ethernet Controller w/RJ-45 and Wake-On-LAN Technology
- 32X Max EIDE CD-ROM Drive
- 2 Universal Serial Bus (USB) Ports / DMI 2.0
- Quantex ATX Mid Tower Case
- MS Natural Keyboard Elite with MS IntelliMouse
- MS Windows NT 4.0 Workstation
- Microsoft Office '97 SBE Ver 2
  Upgrade to MS Office '97 Professional for $199
- 3-year limited warranty with 1-year On-Site Service**
- 24-hr./7-day Technical Support
- QSentry Technology (Including Intel LANDesk Client Manager V.3.1)
- *Add 56K V.90 Fax/Modem* for $39*
- *Upgrade to 15.0" LCD Flat-Panel Display for $399*

QP6/400 SB-4(w/ Pentium® II Processor).....$1999

BUSINESS NOTEBOOKS

OPTIONS: Mini-Docking Station $149 ▪ 2nd Lithium Ion Battery $129 ▪ PCMCIA NIC $129 ▪ Deluxe Carrying case $99

Quantex T-1310 $1999

Business lease: $70/Mo.

- Pentium® II processor 233MHz
- Intel Mobile Module (I.M.M.) Architecture
- 13.3" XGA Active Matrix Display
- 32MB SDRAM
- 512KB Secondary Cache
- 4GB Ultra ATA HD / 3.5" 1.44MB Modular Floppy Drive
- 56K V.90 Fax/Modem*
- 24X Modular CD-ROM Drive
- 128-bit AGP Graphics Accelerator
- Integrated 16-bit Stereo Sound and Speakers
- Smart Lithium Ion Battery
- USB and Fast IR Ports
- Integrated Personal Touchpad
- MS Windows 98
- Corel Office Suite 8
- Carrying Case
- 3-year limited warranty on CPU and Main Memory
- 1-year parts and labor limited warranty on all other components

T-1310 w/Pentium II processor 266MHz.....$2199

Quantex T-1311 $2499

Business lease: $88/Mo.

- Pentium® II processor 266MHz
- Intel Mobile Module (I.M.M.) Architecture
- 13.3" XGA Active Matrix Display
- 64MB SDRAM/512KB Secondary Cache
- 4GB Ultra ATA HD / 3.5" 1.44MB Modular Floppy Drive
- 56K V.90 Fax/Modem*
- 24X Modular CD-ROM Drive
- 128-bit AGP Graphics Accelerator
- Integrated 16-bit Stereo Sound and Speakers
- Smart Lithium Ion Battery
- **2nd Lithium Ion Battery**
- **Mini-Docking Station**
- USB and Fast IR Ports
- Integrated Personal Touchpad
- MS Windows 98
- Microsoft Office '97 SBE Ver 2
- Carrying Case
- 3-year limited warranty on CPU and Main Memory
- 1-year parts and labor limited warranty on all other components

T-1311w/Pentium II processor 300MHz.....$2749

Quantex T-1410 $2899

Business lease: $102/Mo.

- Pentium® II processor 300MHz
- Intel Mobile Module (I.M.M.) Architecture
- 14.1" XGA Active Matrix Display
- **80MB SDRAM**
- 512KB Secondary Cache
- 6GB Ultra ATA HD / 3.5" 1.44MB Modular Floppy Drive
- 56K V.90 Fax/Modem*
- **2X DVD-ROM Drive**
- 128-bit AGP Graphics Accelerator
- Integrated 16-bit Stereo Sound and Speakers
- Smart Lithium Ion Battery
- USB and Fast IR Ports
- Integrated Personal Touchpad
- MS Windows 98
- Microsoft Office '97 SBE Ver 2
- Carrying Case
- 3-year limited warranty on CPU and Main Memory
- 1-year parts and labor limited warranty on all other components

Quantex T-1411 $3099

Business lease: $104/Mo.

- Pentium® II Processor 300MHz
- Intel Mobile Module (I.M.M.) Architecture
- 14.1" XGA Active Matrix Display
- **96MB SDRAM**
- 512KB Secondary Cache
- 6GB Ultra ATA HD / 3.5" 1.44MB Modular Floppy Drive
- 56K V.90 Fax/Modem*
- **2X DVD-ROM Drive**
- 128-bit AGP Graphics Accelerator
- Integrated 16-bit Stereo Sound and Speakers
- Smart Lithium Ion Battery
- **2nd Lithium Ion Battery**
- **Mini-Docking Station**
- USB and Fast IR Ports
- Integrated Personal Touchpad
- MS Windows 98
- Microsoft Office '97 SBE Ver 2
- Carrying Case
- 3-year limited warranty on CPU and Main Memory
- 1-year parts and labor limited warranty on all other components

Quantex T-1400 $2399

Business lease: $84/Mo.

- Pentium® II processor 266MHz
- Intel Mobile Module (I.M.M.) Architecture
- 14.1" XGA Active Matrix Display
- 64MB SDRAM
- 512KB Secondary Cache
- 4GB Ultra ATA HD / 3.5" 1.44MB Modular Floppy Drive
- 56K V.90 Fax/Modem*
- 24X Modular CD-ROM Drive
- **ATI 3D AGP Graphics Accelerator w/8MB**
- Integrated 16-bit Stereo Sound and Speakers
- Smart Lithium Ion Battery
- USB and Fast IR Ports
- Integrated Personal Touchpad
- MS Windows 98
- Corel Office Suite 8
- Carrying Case
- 3-year limited warranty on CPU and Main Memory
- 1-year parts and labor limited warranty on all other components

I-1400 w/Pentium II processor 300MHz $2599

Quantex T-1411 $3399

Business lease: $114/Mo.

- Pentium® II Processor 300MHz
- Intel Mobile Module (I.M.M.) Architecture
- 14.1" XGA Active Matrix Display
- **128MB SDRAM**
- 512KB Secondary Cache
- **8GB** Ultra ATA HD / 3.5" 1.44MB Modular Floppy Drive
- 56K V.90 Fax/Modem*
- **2X DVD-ROM Drive**
- **ATI 3D AGP Graphics Accelerator w/8MB**
- Integrated 16-bit Stereo Sound and Speakers
- Smart Lithium Ion Battery
- **2nd Lithium Ion Battery**
- **Mini-Docking Station**
- USB and Fast IR Ports
- Integrated Personal Touchpad
- MS Windows 98
- Microsoft Office '97 SBE Ver 2
- Carrying Case
- 3-year limited warranty on CPU and Main Memory
- 1-year parts and labor limited warranty on all other components

I-1411 w/Pentium II processor 266MHz $3199

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VALUE MULTIMEDIA

SOFTWARE: Corel Office Suite 8 • MS Money '97 • Compton's Interactive Encyclopedia • Body Works 6.0 • Amazon Trail II American Heritage Talking Dictionary • Internet the City • Compton's Reference Collection • Dr. Solomons Find-Virus • MS Internet Explorer 4.0

QP6/333 M-1c $1099

Business lease: $39/Mo.

- Intel® Celeron™ Processor 333MHz
- 64MB SDRAM Memory / 128KB Secondary Cache
- 4.3GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- 15" Digital Monitor (13.8" viewable)
- 64-Bit 3D PCI Graphics Accelerator with 4MB
- 56K V.90 PCI Fax/Modem* w/Voice Mail and Speakerphone
- 32X Max EIDE CD-ROM Drive
- SoundBlaster AudioPCI 64V Wavetable 3D Sound
- Altec-Lansing ACS-90 Speakers
- Quantex ATX Mid Tower Case
- 104-Key Keyboard with MS Mouse
- MS Windows 98
- Value Multimedia Software Bundle
- 3-year limited warranty with 1-year On-Site Service**

QP6/350 M-1x(with Pentium II processor).....$1299

QP6/350 M-2x $1499

Business lease: $53/Mo.

- Pentium® II Processor 350MHz/100MHz Front Side Bus
- 64MB SDRAM Memory / 512KB Secondary Cache
- 8.4GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- 17" Digital Monitor w/OSD (15.8" viewable)
- Toshiba MPACT2 3D Media Accelerator w/8MB RDRAM
- 56K V.90 PCI Fax/Modem* w/Voice Mail and Speakerphone
- ***New* 3rd-Generation 4.8X DVD-ROM Drive**
- SoundBlaster AudioPCI 64V Wavetable 3D Sound
- Altec-Lansing ACS-90 Speakers
- Quantex ATX Mid Tower Case
- 104-Key Keyboard with MS Mouse
- MS Windows 98
- Value Multimedia Software Bundle
- 3-year limited warranty with 1-year On-Site Service**

QP6/333 M-2x(with Pentium II processor).....$1399

QP6/400 M-3x $1799

Business lease: $63/Mo.

- Pentium® II Processor 400MHz/100MHz Front Side Bus
- 64MB PC100 SDRAM Memory / 512KB Secondary Cache
- 10.2GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- 17" Digital Monitor w/OSD (15.8" viewable)
  Upgrade to 17" Monitor w/NEC CromaClear CRT for $79
- Toshiba MPACT2 3D Media Accelerator w/8MB RDRAM
- **Internal 100MB Zip Drive with one cartridge**
- 56K V.90 PCI Fax/Modem* w/Voice Mail and Speakerphone
- ***New* 3rd-Generation 4.8X DVD-ROM Drive**
- SoundBlaster AudioPCI 64V Wavetable 3D Sound
- Altec-Lansing ACS-90 Speakers
- Quantex ATX Mid Tower Case
- 104-Key Keyboard with MS Mouse
- MS Windows 98
- Value Multimedia Software Bundle
- 3-year limited warranty with 1-year On-Site Service**

QP6/350 M-3x(with Pentium II processor).....$1599

QP6/450 M-4x $2099

Business lease: $74/Mo.

- Pentium® II Processor 450MHz/100MHz Front Side Bus
- 64MB PC100 SDRAM Memory/512KB Secondary Cache
- 10.2GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- **19" Monitor w/OSD (18.1" viewable), 1600x1200, .26dp**
- Intel740™ 3D 2X AGP Graphics with 8MB SDRAM
- 56K V.90 PCI Fax/Modem* w/Voice Mail and Speakerphone
- ***New* 3rd-Generation 4.8X DVD-ROM Drive**
- SoundBlaster AudioPCI 64V Wavetable 3D Sound
- Altec-Lansing ACS-90 Speakers
- Quantex ATX Mid Tower Case
- 104-Key Keyboard with MS Mouse
- MS Windows 98
- Value Multimedia Software Bundle
- 3-year limited warranty with 1-year On-Site Service**
- *Add Altec Lansing ACS-251 Subwoofer for $39*
- *Upgrade to 15.0" LCD Flat-Panel Display for $399*

QP6/400 M-4X(with Pentium II processor).....$1899

POWER MULTIMEDIA

SOFTWARE: MS Office '97 Small Business Edition Ver 2 • MS Money '97 • Office Mate • Day Planner Pro • Power Business Plans • Form Designer Pro • Project Manager Pro • Labels Unlimited • Compton's Reference Collection • Dr. Solomons Find-Virus • MS Internet Explorer 4.0

QP6/350 SM-1x $1599

Business lease: $54/Mo.

- Pentium® II Processor 350MHz/100MHz Front Side Bus
- 64MB PC100 SDRAM Memory / 512KB Secondary Cache
- 6.4GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- 17" Digital Monitor w/OSD (15.8" viewable)
  Upgrade to 17" Monitor w/NEC CromaClear CRT for $79
- Intel740™ 3D 2X AGP Graphics with 8MB SDRAM
- 56K V.90 PCI Fax/Modem* w/Voice Mail and Speakerphone
- 32X Max EIDE CD-ROM Drive
- SoundBlaster AudioPCI 64V Wavetable 3D Sound
- Altec-Lansing ACS-90 Speakers
- Quantex ATX Mid Tower Case
- 104-Key Keyboard with MS IntelliMouse
- MS Windows 98
- Power Multimedia Software Bundle
- Microsoft Office '97 SBE Ver 2
- 3-year limited warranty with 1-year On-Site Service**

QP6/400 SM-1x(with Pentium II processor).....$1699

QP6/400 SM-2x $1999

Business lease: $70/Mo.

- Pentium® II Processor 400MHz/100MHz Front Side Bus
- 96MB PC100 SDRAM Memory / 512KB Secondary Cache
- 13.5GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- **17" Digital Monitor w/ OSD & NEC CromaClear CRT** (16.0" viewable; .25 dp; 1600x1200 max. resolution)
- **128-bit 3D 2X AGP Graphics w/16MB**
- 56K V.90 PCI Fax/Modem* w/Voice Mail and Speakerphone
- 32X Max EIDE CD-ROM Drive
- SoundBlaster AudioPCI 64V Wavetable 3D Sound
- Altec-Lansing ACS-45.1 Speakers with subwoofer
- Quantex ATX Mid Tower Case
- MS Natural Keyboard Elite with MS IntelliMouse
- MS Windows 98
- Power Multimedia Software Bundle
- Microsoft Office '97 SBE Ver 2
- 3-year limited warranty with 1-year On-Site Service**
- *Upgrade to 15.0" LCD Flat-Panel Display for $549*

QP6/450 SM-2x(with Pentium II processor).....$2199

QP6/400 SM-3x $2199

Business lease: $77/Mo.

- Pentium® II Processor 400MHz/100MHz Front Side Bus
- 128MB PC100 SDRAM Memory / 512KB Secondary Cache
- 13.5GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- 19" Monitor w/OSD (18.1" viewable), 1600x1200, .26dp
- **#9 Revolution IV 128-bit 3D 2X AGP Graphics with 32MB**
- **Internal 100MB Zip Drive with one cartridge**
- 56K V.90 PCI Fax/Modem* w/Voice Mail and Speakerphone
- 32X Max EIDE CD-ROM Drive
- SoundBlaster AudioPCI 64V Wavetable 3D Sound
- Altec-Lansing ACS-45.1 Speakers with subwoofer
- Quantex ATX Mid Tower Case
- MS Natural Keyboard Elite with MS IntelliMouse
- MS Windows 98
- Power Multimedia Software Bundle
- Microsoft Office '97 SBE Ver 2
- 3-year limited warranty with 1-year On-Site Service**
- *Upgrade to 15.0" LCD Flat-Panel Display for $399*

QP6/450 SM-3x(with Pentium II processor)..... $2399

QP6/450 SM-4x $2499

Business lease: $88/Mo.

- Pentium® II Processor 450MHz/100MHz Front Side Bus
- 128MB PC100 SDRAM Memory / 512KB Secondary Cache
- **16.8GB Ultra ATA HD** / 3.5" 1.44MB Floppy Drive
- 19" Monitor w/OSD (18.1" viewable), 1600x1200, .26dp
- Intel740™ 3D 2X AGP Graphics with 8MB SDRAM
- 56K V.90 PCI Fax/Modem* w/Voice Mail and Speakerphone
- ***New* 3rd-Generation 4.8X DVD-ROM Drive**
- SoundBlaster AudioPCI 64V Wavetable 3D Sound
- ***New* Altec-Lansing ADA-305 Dolby Surround Sound Speakers with subwoofer**
- Quantex ATX Mid Tower Case
- MS Natural Keyboard Elite with MS IntelliMouse
- MS Windows 98
- Power Multimedia Software Bundle
- Microsoft Office '97 SBE Ver 2
- 3-year limited warranty with 1-year On-Site Service**
- *Upgrade to 15.0" LCD Flat-Panel Display for $399*

QP6/400 SM-4x(with Pentium II processor)..... $2299

SUPER MULTIMEDIA

QP6/450 M-4x SE $2299

Business lease: $81/Mo.

- Pentium® II Processor 450MHz/100MHz Front Side Bus
- 128MB PC100 SDRAM Memory / 512KB Secondary Cache
- 13.5GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- 19" Monitor w/OSD (18.1" viewable), 1600x1200, .26dp
- Intel740™ 3D 2X AGP Graphics with 8MB SDRAM
- **Internal 100MB Zip Drive with one cartridge**
- 56K V.90 PCI Fax/Modem* w/Voice Mail and Speakerphone
- ***New* 3rd-Generation 4.8X DVD-ROM Drive**
- SoundBlaster AudioPCI 64V Wavetable 3D Sound
- Altec-Lansing ACS-90 Speakers
- Quantex ATX Mid Tower Case
- 104-Key Keyboard with MS Mouse
- MS Windows 98
- Value Multimedia Software Bundle
- 3-year limited warranty with 1-year On-Site Service**
- *Add Altec Lansing ACS-251 Subwoofer for $39*
- *Upgrade to 15.0" LCD Flat-Panel Display for $399*

QP6/400 M-4x SE(with Pentium II processor).....$2099

QP6/450 SM-4x SE $2999

Business lease: $105/Mo.

- Pentium® II Processor 450MHz/100MHz Front Side Bus
- 128MB PC100 SDRAM Memory / 512KB Secondary Cache
- **16.8GB Ultra ATA HD** / 3.5" 1.44MB Floppy Drive
- **21" Monitor w/OSD** (20.0" viewable), 1600x1200
- **#9 Revolution IV 128-bit 3D 2X AGP Graphics with 32MB**
- **Internal 100MB Zip Drive with one cartridge**
- 56K V.90 PCI Fax/Modem* w/Voice Mail and Speakerphone
- 32X Max EIDE CD-ROM Drive
- SoundBlaster AudioPCI 64V Wavetable 3D Sound
- Altec-Lansing ADA-305 Dolby Surround Sound Speakers & subwoofer
- Quantex ATX Mid Tower Case
- MS Natural Keyboard Elite with MS IntelliMouse
- MS Windows 98
- Power Multimedia Software Bundle
- Microsoft Office '97 SBE Ver 2
- 3-year limited warranty with 1-year On-Site Service**

QP6/400 SM-4x SE(with Pentium II processor).....$2799

M-SERIES BEST BUY

QP6/450 Best Buy $1799

Business lease: $70/Mo.

- Pentium® II Processor 450MHz/100MHz Front Side Bus
- 64MB PC100 SDRAM Memory / 512KB Secondary Cache
- 8.4GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- **19" Monitor w/OSD** (18.1" viewable), 1600x1200, .26dp
- Intel740™ 3D 2X AGP Graphics with 8MB SDRAM
- 56K V.90 PCI Fax/Modem* w/Voice Mail and Speakerphone
- ***New* 3rd-Generation 4.8X DVD-ROM Drive**
- SoundBlaster AudioPCI 64V Wavetable 3D Sound
- Altec-Lansing ACS-90 Speakers
- Quantex ATX Mid Tower Case
- 104-Key Keyboard with MS Mouse
- MS Windows 98
- Value Multimedia Software Bundle
- 3-year limited warranty with 1-year On-Site Service**
- *Add Altec Lansing ACS-251 Subwoofer for $39*
- *Add a Internal Zip Drive for $ 79*

GAMING BEST BUY

QP6/450 GX-2 $2499

Business lease: $88/Mo.

- Pentium® II Processor 450MHz/100MHz Front Side Bus
- 128MB PC100 SDRAM Memory / 512KB Secondary Cache
- 13.5GB Ultra ATA HD / 3.5" 1.44MB Floppy Drive
- 19" Monitor w/OSD (18.1" viewable), 1600x1200, .26dp
- Intel740™ 3D 2X AGP Graphics with 8MB SDRAM
- Internal 100MB Zip Drive with one cartridge
- 56K V.90 PCI Fax/Modem* w/Voice Mail and Speakerphone
- ***New* 3rd-Generation 4.8X DVD-ROM Drive**
- **Aureal "A3D" 3D Positional PCI Sound**
- **3Dfx Voodoo2 based 3D Game Accelerator w/12MB**
- MS SideWinder 3D Pro Joystick
- *New* Altec-Lansing ADA-305 Dolby Surround Sound Speakers & subwoofer
- Quantex ATX Mid Tower Case
- MS Natural Keyboard Elite with MS Mouse
- MS Windows 98
- Value Multimedia Software Bundle
- ***Activision Game Titles:*** Battlezone, Heavy Gear Interstate 76 w/Nitro Pack
- 3-year limited warranty with 1-year On-Site Service**

QP6/400 GX-2(with Pentium II processor).....$2299

intel inside pentium® II PROCESSOR

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We're GCC Technologies and our printers are sold direct against some of the most famous names in the computer industry. Which creates a buying opportunity for those who understand a basic principle of free enterprise: Selling direct is better for the manufacturer and buying direct is better for the customer.

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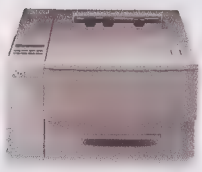
We also provide direct technical support, eliminating other middlemen who can't solve your problems. And we are compassionate hand-holders. We offer unlimited free technical support, not just on business days, but on Saturdays too – throughout the one-year warranty period. And if during that period you have a problem that our technical support people can't solve, our Platinum Exchange program guarantees you a replacement printer by the next business day.

We invite you to buy your next printer direct from GCC and join our growing family of satisfied customers. All GCC printers come with an unconditional thirty-day money-back guarantee.

For complete details, call the 800 number below. And for the record, yes, our printers have wonderful technology too. It's just that you don't have to pay extra for it.



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12 pages per minute
1 year Platinum Exchange Warranty
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80 PostScript fonts, 15 PCL fonts
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Ethernet (10BaseT), Bi-directional Parallel

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(Includes 500 sheet Universal Tray) Add $299

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Platinum Exchange Warranty Program
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Platinum Exchange Warranty Program
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EtherTalk®, LocalTalk®, NetWare™, TCP/IP
Ethernet (10BaseT, AAUI), Bi-directional Parallel

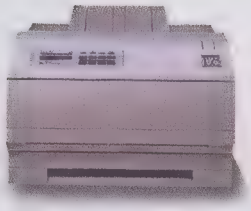
2nd or 3rd Paper Feeder*
(Includes 500 sheet Universal Tray) Add $299

Extra 8 MB Memory Add $ 49

$1799 **600 dpi**
Business Lease $63 Month/36 months
Platinum Exchange Warranty Program
Additional Year Add $ 179

$1999 **800 dpi**
Business Lease $70 Month/36 months
Platinum Exchange Warranty Program
Additional Year Add $ 199

$2199 **1200 dpi**
Business Lease $75 Month/36 months
Platinum Exchange Warranty Program
Additional Year Add $ 219



ELITE XL 8 Series

8 pages per minute
1 year Platinum Exchange Warranty
Maximum Print Area 11" x 17"
Ledger, letter, legal, A3, A4, envelope
250 sheet Universal Tray
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80 PostScript fonts, 15 PCL fonts
RAM expandable to 64 MB
EtherTalk®, LocalTalk®, TCP/IP
Ethernet (10BaseT, 10Base2), Parallel

2nd Paper Feeder*
(Includes 250 sheet Universal Tray) Add $319
(Includes 500 sheet Universal Tray) Add $419

Extra 8 MB Memory Add $ 49

$1399 **600 dpi**
Business Lease $48 Month/36 months
Platinum Exchange Warranty Program
Additional Year Add $ 139

* The Elite 12/600, Elite 1212, and the Elite XL 608LC support one additional paper feeder. The Elite XL 20/600, Elite XL 20/800, and the Elite XL 20/1200 support two additional trays.

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DIGITAL CAMERA AND SCANNER SUPERGUIDE

Been on the Web lately? It's a graphical shopper's paradise. Seen any good presentations lately? Chances are they were loaded with color images. Checked your e-mail? It's likely to have pictures of your newborn nephew or a copy of your new ad campaign attached to a memo. Image may not be everything, but digital images are everywhere.

Now it's your turn to get in on the imaging act. How? With a scanner or digital camera. Did we say *or*? With the prices of even the best digital cameras now between $399 and $1,000, and most flatbed color scanners selling for less than $300, it's possible you'll choose both. Still, they are very different tools that meet very different needs. And knowing the pros and cons of cameras and scanners will not only help you decide which one is best for you, but also help you determine how and if to use them together.

This month, in the first of our three-part Digital Camera and Scanner Superguide, we look at the latest high-resolution digital cameras, budget and midrange flatbed scanners, and color photo printers. Next month, we deliver hands-on projects for getting down to business with your new camera and/or scanner. And finally in January, we offer expert tips and techniques for moving beyond the basics and into the realm of imaging experts.

PUT THESE ON YOUR SHORTLIST: AMAZING DIGITAL CAMERAS, SCANNERS, AND PRINTERS YOU CAN'T AFFORD TO PASS UP!

DIGITAL CAMERAS

- Take it with you to capture high-quality images thanks to 1,280-by-960 resolution
- No waiting to develop and scan film. View images instantly on the camera's LCD or on your PC
- Affordable—as low as $399

SCANNERS

- Get a scanner, copier, and fax machine in one
- Resolution of 300 by 600 dpi for Web work or 600 by 1,200 dpi for print
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PHOTO PRINTERS

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BY KYLA K. CARLSON, DAVE JOHNSON, AND CHRIS O'MALLEY

PHOTOGRAPHY BY MARK COMPTON

DIGITAL CAMERA: How It Works

As with a film camera, light passes through the lens of a digital camera. However, the image focuses on a chip called a charge-coupled device (CCD) instead of film. The light energy that strikes the CCD is turned into an electrical current. The various current levels are then translated into digital values that are stored to record the image.

So how do you decide between a digital camera and a scanner? It's a good policy not to answer a question with a question, but we can't resist: Where do you want to go (with your digital imaging hardware, that is)? If the answer is anywhere outside, you'll want a digital camera. Cameras go; scanners stay. A digital camera is the way to go if the image you're seeking—whether it's a house for sale or a sail for a boat—is outside your office or home.

Sure, you can snap film photos and scan them into your PC for less money initially. But the process of using a roll of film, waiting for it to be developed, hoping (sometimes fruitlessly) that you got the shot you really wanted, and then scanning the prints into your PC grows tiresome quickly. With a digital camera, however, you get instant feedback on its LCD screen, so there are no surprises later. And while transferring pictures from camera to computer is a little slower and clumsier than we'd like, it's better than the film developing and scanning scenario. (For more details on how the costs compare, see "Return on Investment," page 214.)

This much is undeniably true too: Digital cameras are a lot more fun than flatbed scanners. You'll probably never bring your scanner home from the office for the weekend or a child's birthday party, or pack a flatbed for your vacation in the Virgin Islands. You can do both and much more with a digital camera.

The Right Choice But which digital camera? Dozens of models are available now—in all sizes, shapes, resolutions, and prices. Today's digital cameras fall into three categories defined by their resolutions: VGA (640 by 480 pixels), XGA (1,024 by 768 pixels), and megapixel (roughly 1 million pixels or more, such as 1,152 by 872 or 1,280 by 960). VGA cameras and photos are fine for attaching images to e-mail, posting them on Web sites, or using them with any other application that puts a picture on a computer screen. But VGA cameras aren't very versatile since they don't capture enough detail to produce sharp-looking pictures on paper—regular or glossy.

Even on a budget, XGA cameras are a better buy than VGA models, which is why we chose to review XGA cameras and not VGA models in our roundup. Virtually all XGA cameras (and megapixel models for that matter) can downshift into VGA mode for snapping digital

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Picture shown is an unretouched photograph taken with the Olympus D-600L digital camera.

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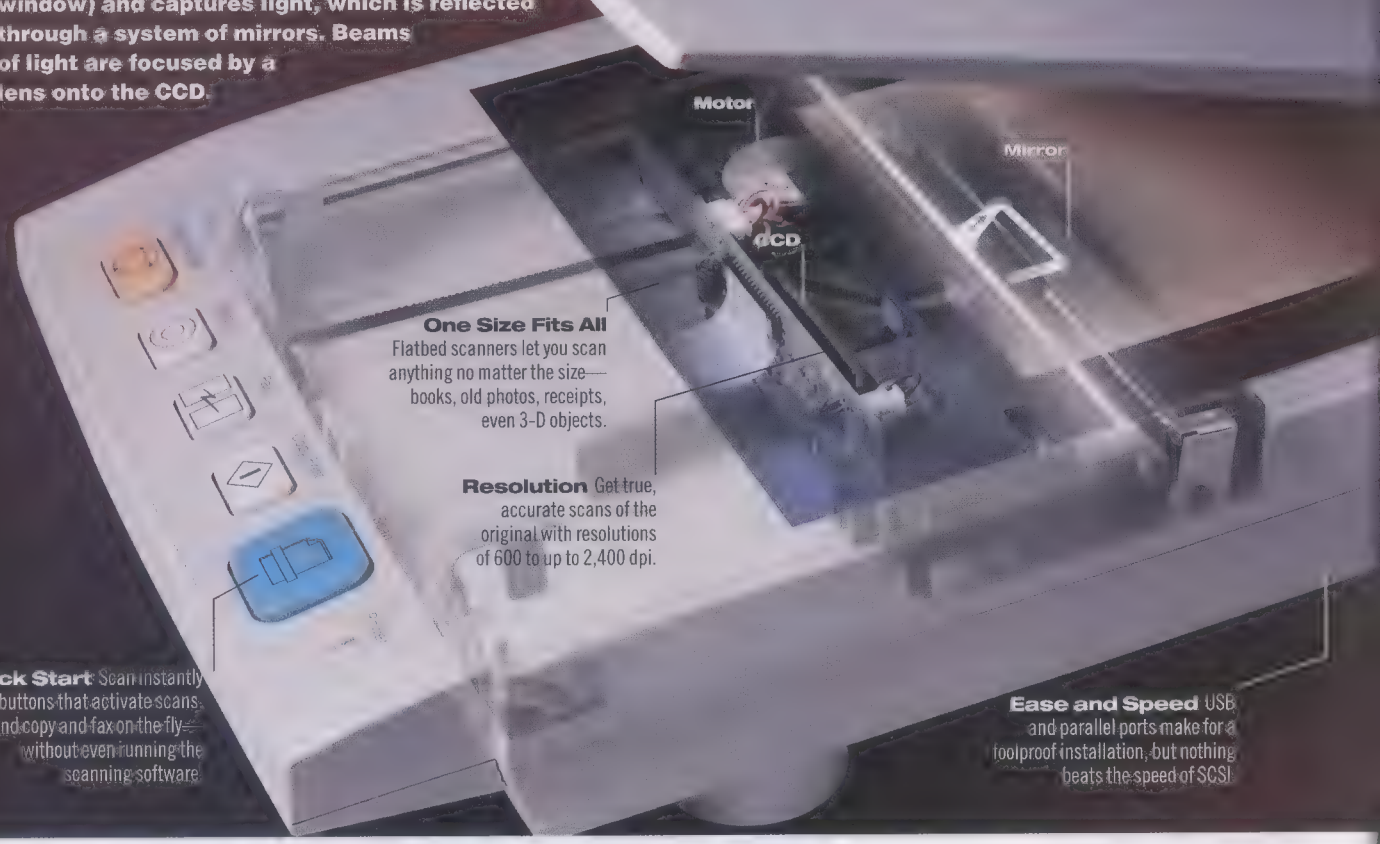
SCANNER: How It Works

A scanner works much like a digital camera with a CCD, but it has its own light source. A motor-driven scanning mechanism moves below the image (under the glass window) and captures light, which is reflected through a system of mirrors. Beams of light are focused by a lens onto the CCD.



pictures with modest file sizes—an important factor when you're uploading and downloading photos and posting them to the Web. But in high-resolution mode, XGA cameras yield presentable photos on paper, too, especially if you print to glossy photo paper.

Megapixel cameras do even better—but only partly because of their higher resolution. Many of these higher-priced models also come with better optics, zoom lenses, and manual controls—all of which make for sharper, more vivid, and more accurate pictures. Of course the extra resolution helps. And while many newer cameras hover in the vicinity of a million pixels, several sub-$1,000 models have inched toward or beyond 1.5 million pixels. The results are very impressive, onscreen and on paper. Paired with a good photo printer and glossy paper, megapixel cameras truly rival 35mm film prints and professionally printed four-color flyers and brochures. Bottom line: If you like cameras, get an XGA model. If you love cameras, get a megapixel one with the works.

While digital cameras are fun to carry, flatbed scanners just flat-out get the job done. A good scanner's charm is its straightforward manner: Lift the lid, place the picture face down, and let the scanner take over. In addition to photos and art, you can scan almost anything: thick books, documents, receipts, 3-D objects, and more. And this year, scanner buyers have three more reasons to buy. Simultaneously, image quality is going up (to a new baseline of 300 by 600 dpi with 30-bit or 36-bit color), prices are coming down (as low as $79), and installing a low-end scanner has gotten much simpler (if a bit slower) with the advent of USB and parallel-port connections.

Unlike digital cameras, a basic scanner may be all you need for many print jobs. That's partly because of their relatively high resolutions, but also because you're likely to be scanning film prints, professionally printed documents, and other high-quality originals. As good as today's digital cameras are, you'll usually get better pictures from a quality scan than from an electronic snapshot—at least for objects that can be held in your hand and slipped under a flatbed's lid.

There's another reason to like flatbed scanners: They double as document digitizers. Most flatbeds come bundled with optical character recognition (OCR) software that turns scanned pages into editable text. Many scanners

16 MB

Pure Graphics POWER

also include document management software to help you organize and quickly retrieve scanned items and documents. Some digital cameras have macro modes that let you get within 4 inches of a subject, but they are hardly the right tools for digitizing documents. A scanner can also double as a fax machine or even a copier with the help of a printer.

Printed Pictures Whichever route you take—camera or scanner—you're going to need a way to print your finished photos. Most new, general-purpose ink-jet printers can handle picture-printing chores, but if you print mainly digital photos, you'll want a more specialized photo printer. Some photo-only printers produce pictures that are virtually indistinguishable from film prints. Additionally, some photo-only printers hook directly to a digital camera so you can bypass your PC altogether. The downside is that they're often not practical for printing anything else, so it means keeping two printers at the ready. You can also choose a specialized ink-jet printer that will do double duty as an office workhorse. These models usually require special ink and paper for photo-quality output, while you can use standard supplies for regular color images or even text printing. We looked at a dozen photo printers to help you choose the right one for your needs.

You'll also need a good image editor in between your camera or scanner and your printer to correct flaws and create special effects. All cameras and most scanners come with an image editor, such as Adobe PhotoDeluxe, Microsoft Picture It, or MGI PhotoSuite. But image-editing programs are different and inexpensive enough ($50 or so) that you may want to try another if you're not happy with the one included with your camera or scanner. If you're doing more than basic or fun fixes, step up to a professional image editor like Adobe Photoshop.

What's around the corner? No doubt even higher resolutions and lower prices for digital cameras and scanners. And most of these devices will probably add USB ports in the coming months for simpler, faster connections too. (Kodak's DC260 camera already has one, as does Umax's Astra 1220U scanner.) And new camera and scanner models will continue to land on store shelves faster than canned goods at the supermarket.

Still, as with PCs, sitting on the fence and waiting for the next generation brings more penalties than gains. Today's digital cameras and flatbed scanners are refined products that help you leverage the visual world around you. Grab one and say *cheese.*

Cameras and Scanners Return on Investment

We know: The digital camera you really want costs as much as the new PC on your secretary's desk. Can you convince the bean counters you really need this digital toy? Yes, and here's how.

Cameras and scanners are convenient, but it's hard to put a price tag on fewer headaches and hassles. But you can put a price on how much cameras and scanners save you in film and photo developing charges or expensive trips to a service bureau.

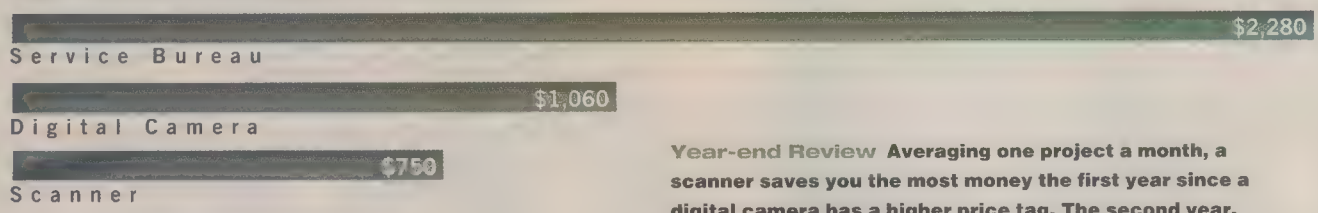
How soon your investment pays off depends on what you do. Consider this scenario: You've snapped a roll of film of the latest product developments and need to insert them into a presentation. If you go the traditional route—develop the film, then pay a service bureau to digitize the images so you can pop them into your presentation—the bill quickly adds up: $7 for film, $13 for one-hour developing at stores like Wolf Camera or Ritz Camera, then around $50 for a service bureau like Kinko's to make them digital. Add even more to this $70 bill if you have Kinko's add the images to your presentation: It charges $90 per hour.

Now imagine if you had a digital camera or scanner. With just ten such projects, your new $700 digital camera would be paid off. After that, your company starts saving money. If you own an inexpensive $150 scanner, you still save big. Sure, you pay for film and developing, but by your fourth project you start saving money.

And that's not all. Think of how much your time is worth—on average, *PC Computing* readers earn $30 an hour. You'll save an hour or more—that's $30 to $50—because you bypass time driving to the photo store or service bureau, plus the time spent waiting for the work to be done.

Do It Yourself and Save

Yearly Costs (price of product/service plus time)



Year-end Review **Averaging one project a month, a scanner saves you the most money the first year since a digital camera has a higher price tag. The second year, however, the camera will overtake the scanner, costing you only your time.**

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Snap to It

Imagine snapping a picture, then hooking your camera up to your PC, and *boom*—instant digital images. Suddenly everything from your e-mail to your presentations come alive. All the better to get noticed with too. But unlike most point-and-shoot film cameras, the picture quality you get from digital models varies dramatically.

For pictures bound for screens, XGA (1,024 by 768) or even VGA (640 by 480) resolutions are adequate. For images destined for publications, brochures, and other documents, a megapixel camera (1,152 by 872 or better) is a better buy. Lower resolutions are fine for the Web, but aim high if you're printing photos. We put a dozen megapixel and five XGA cameras to the test in *PC Computing*'s Labs.

Image Conscious Image sensors, usually charge-coupled device (CCD) chips like those in camcorders, are the heart of digital cameras—and here, size definitely matters. The number of pixels in a camera's sensor is not the only factor in picture quality (optics count too, for instance), but it's the main one. Cameras with high pixel counts produce some of the sharpest pictures with the truest colors and most realistic flesh tones. Our top megapixel pick, Kodak's DC260, is arguably the most refined of all. Its 1,536-by-1,024 resolution means you get crisp pictures at large sizes too. But the Kodak DC260 has plenty of company. Olympus's D-600L and Nikon's Coolpix 900 hold their own with any digital camera under $1,000, as does Agfa's ePhoto 1280, Epson's PhotoPC 700, and Olympus's compact megapixel, the D-340L. Casio's QV-5000SX takes sharp pictures too, though a bit darker than most, and is a bargain at $599. The pictures from Konica's Q-M100 and Hewlett-Packard's PhotoSmart C20 are not quite as detailed and are a tad overexposed, but still very respectable.

There were a few surprises in our tests. Polaroid's PDC-3000, which has the highest resolution of all the cameras we tested (1,600 by 1,200), yielded somewhat muted colors and a grayish tint. And Fuji's MX-700, while capturing very sharp and color-rich pictures, cast a yellowish brown tint over its images in our tests. (You can usually remove these mild tints with a simple contrast adjustment or with a one-click fix in programs like Adobe PhotoDeluxe.) Images from Toshiba's PDR-M1 had a much heavier, brownish cast.

As expected, the image quality of the XGA cameras falls within a shorter range. Olympus's D-500L, our XGA winner, produces the most vibrant, color-balanced images, with Canon's PowerShot A5 and Sanyo's VPC-X300 close behind. Pictures from Agfa's ePhoto 780 aren't quite as crisp, but remarkably good considering it has a VGA image sensor inside and relies on software to bump the quality up to XGA. Vivitar's ViviCam 3100 has an oddball resolution of 960 by 800 that you can double via software to 1,920 by 1,600. It yields XGA-league photos that are almost artificially bright, perhaps overcompensating for using a CMOS (rather than CCD) sensor. The CMOS tends to capture darker, less refined images. The ViviCam's fixed flash intensity and fixed focus may be culprits here too.

Top Shooters **Kodak's DC260 megapixel camera (left) gives you superb pictures. Olympus's D-500L may be only XGA, but you get a whole lot of camera.**

But good cameras are not the products of resolution alone. An optical zoom lens helps you zero in on the picture detail you really want and lose the background you don't. The Agfa, Kodak, Nikon, and Olympus D-600L megapixels each have a 3X optical zoom, while the Olympus D-340L has no zoom lens. Olympus's D-500L is the only XGA model in our roundup with a zoom lens. (Some models have digital zoom but that doesn't make the subject appear any closer when you shoot; rather it takes a portion of your shot and magnifies it to fill the frame.)

Well Adjusted Camera controls are key, too, and not just if you're a photo buff. Many new digital cameras let you adjust the exposure compensation and white balance to get better pictures under varying lighting conditions. Some have a burst mode that lets you capture several frames consecutively, or a time-lapse mode for snapping photos every few minutes or hours. And to make these options easier to use, the latest trend in cameras is to list many of the controls in menus on the LCD screen, minimizing the number of dials and buttons. Kodak's DC260 uses the graphical Digita operating system, putting its many options within reach of even novice shutterbugs.

Virtually all digital cameras now come with a built-in flash and an optical viewfinder, as well as a color LCD screen and a video port for TV output. (One exception: The ViviCam 3100 has neither a screen nor video out.) Most, though not all cameras, have removable flash memory cards for storing photos. When you need to snap more photos just add another card. The Casio QV-5000SX comes with 8MB of internal (nonremovable) flash memory, while the Epson PhotoPC 700 has both 4MB of internal memory and a card slot for adding more. In general, 4MB of memory is preferred for XGA cameras and at least 8MB for megapixels. If

Smart Buys **Olympus's $699 megapixel D-340L (right) has excellent picture quality. And Sanyo's XGA $499 VPC-X300 gives crisp images at a bargain price.**

Easy Does It **The megapixel Kodak DC260's (right) Digita operating system makes it easy to shoot like a pro. Canon's PowerShot A5 XGA is also easy to use.**

your camera of choice doesn't have that much memory, plan on buying more or dealing with the hassle of frequently downloading pictures to your PC.

At these prices, you deserve a few perks, don't you? Of course you do. The lenses on the Nikon Coolpix and the Agfa ePhoto1280 swivel, which makes for some interesting shots. The Kodak DC260 and the Vivitar ViviCam let you record sound with your images. And to make transferring pictures simpler, cameras like the Kodak DC260 come with infrared ports for beaming them to your PC.

DECISION MAKER WHICH **DIGITAL CAMERA** IS RIGHT FOR YOU?

1 Choose the factor that's most important.	2 Choose the next most important factor.	3 What will you be doing?	4 For your needs, the best camera to buy is . . .
Image Quality	Price	Print Output (Megapixel)	Agfa ePhoto 1280
		Screen Output (XGA)	Sanyo VPC-X300
	Features	Print Output (Megapixel)	Kodak DC260
		Screen Output (XGA)	Olympus D-500L
Price	Image Quality	Print Output (Megapixel)	Epson PhotoPC 700
		Screen Output (XGA)	Agfa ePhoto 780
	Features	Print Output (Megapixel)	Olympus D-340L
		Screen Output (XGA)	Agfa ePhoto 780
Features	Image Quality	Print Output (Megapixel)	Olympus D-600L
		Screen Output (XGA)	Olympus D-500L
	Price	Print Output (Megapixel)	Nikon Coolpix 900
		Screen Output (XGA)	Agfa ePhoto 780

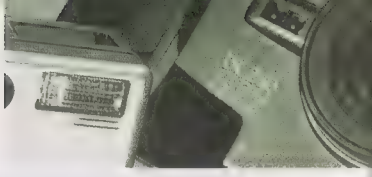


Photo Finish

Digital cameras still trail their film rivals in photorealism, but the gap is closing. Compare the result of a standard camera (below left) with those of the digital cameras in our roundup.

Skin Tones Should appear natural and very subtly gradated.

Details The watchband and flower petals should be clear.

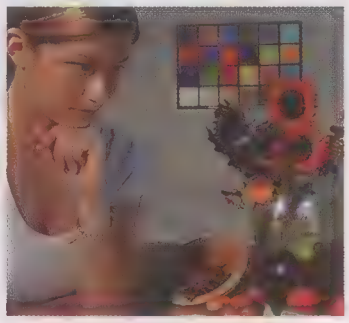
Reflections Mirrored surfaces should reflect light naturally.

Colors Hues should be true to their real-life counterparts.

Agfa ePhoto 780

Resolution: 1,024 by 768 (interpolated)

Bottom Line: Good quality given VGA sensor, but not as sharp as other XGA models.



Agfa ePhoto 1280

Resolution: 1,280 by 960

Bottom Line: Nicely detailed image with moderate exposure and good skin tones.

Canon PowerShot A5

Resolution: 1,024 by 768

Bottom Line: Good image definition, with moderate exposure and slightly muted colors.

Casio QV-5000SX

Resolution: 1,280 by 960

Bottom Line: Fine detail and true colors with slightly darker exposure and skin tones.

Epson PhotoPC 700

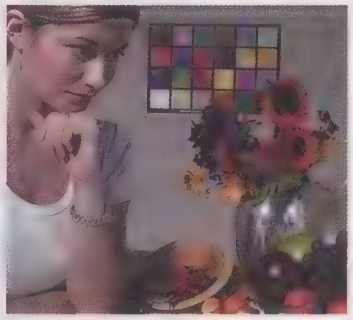
Resolution: 1,280 by 960

Bottom Line: Cleanly detailed image with some reddish overtones and skin tones.

Fuji MX-700

Resolution: 1,280 by 1,024

Bottom Line: Smoothly detailed image but with a distinct yellowish brown tint.



Hewlett-Packard PhotoSmart C20

Resolution: 1,152 by 872

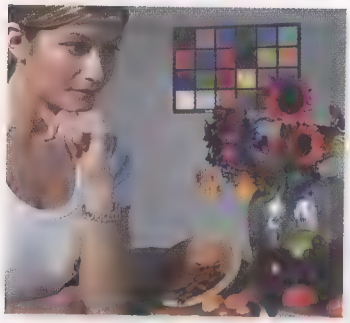
Bottom Line: A notch below most megapixels in sharpness, exposure, and color vividness.

Kodak DC260

Resolution: 1,536 by 1,024

Bottom Line: Large, crisply detailed image with true colors and well-balanced exposure.

NOTE: Appearance of samples may be altered during offset printing process. Image comments are based on overall comparisons of output samples from various files, not just samples shown.

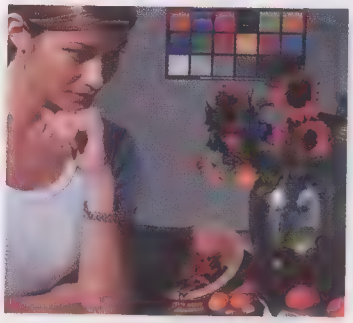


Konica Q-M100
Resolution: 1,152 by 872
Bottom Line: Good color, but a little fuzzy around the edges and mildly overexposed.

Nikon Coolpix 900
Resolution: 1,280 by 960
Bottom Line: Sharp lines and accurate colors with a slightly lighter exposure and skin tone.

Olympus D-340L
Resolution: 1,280 by 960
Bottom Line: Sharp detail in a well-exposed image with accurate colors.

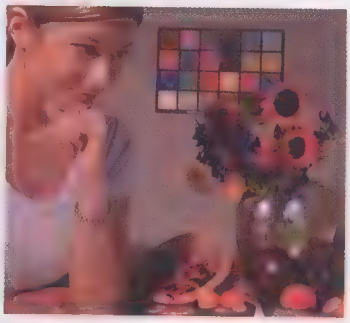
Olympus D-500L
Resolution: 1,024 by 768
Bottom Line: Exceptional clarity for XGA, with accurate colors and proper exposure.



Olympus D-600L
Resolution: 1,280 by 1,024
Bottom Line: Clean image with great color fidelity and faintly reddish skin tones.

Polaroid PDC-3000
Resolution: 1,600 by 1,200
Bottom Line: Well-defined lines but with a grayish, slightly overexposed appearance.

Sanyo VPC-X300
Resolution: 1,024 by 768
Bottom Line: Reasonably sharp image with slightly darker exposure and colors.



Toshiba PDR-M1
Resolution: 1,280 by 1,024
Bottom Line: Good detail and underlying color, but images have a heavy brownish tint.

Vivitar ViviCam 3100
Resolution: 1,920 by 1,600 (interpolated)
Bottom Line: Decent image, though stated resolution is deceiving. Clearly overexposed.

Top Digital Cameras

PRODUCT[1]	Price[2]	Maximum Resolution	Images (Best/Standard); Storage	Interface	Bundled Software	Pros	Cons	Verdict
Megapixel								
PC Computing BEST **Eastman Kodak DC260** (800) 235-6325 *InfoLink No. 601*	**$999**	1,536 by 1,024 dpi	17/99; 8MB	Serial, USB, IrDA	Picture Easy 3.0, Adobe PhotoDeluxe, Adobe PageMill	Outstanding photos; 3X optical zoom.	Somewhat pricey.	☆☆☆☆☆ **A digital camera that rivals your 35mm.**
Agfa ePhoto 1280 (888) 281-2302 *InfoLink No. 602*	**$599**	1,280 by 960 dpi	6/60; 4MB	Serial	Agfa Photowise, LivePix SE, PhotoVista	Excellent photos; 3X optical zoom.	Only 4MB of RAM.	☆☆☆☆ **A great picture-taker.**
Casio QV-5000SX (800) 836-8580 *InfoLink No. 603*	**$599**	1,280 by 960 dpi	17/102; 8MB	Serial	QV-Link, Adobe PhotoDeluxe, ISR ixlaphoto Lite	Low price; minimovie mode.	Slightly dark images.	☆☆☆☆ **Affordable and loaded.**
Epson America PhotoPC 700 (800) 463-7766	**$699**	1,280 by 960 dpi	7/50; 4MB	Serial	Sierra Imaging Image Expert	Good photos; low price.	No optical zoom; only 4MB of RAM.	☆☆☆☆ **One for the shortlist.**
Fuji Photo Film USA MX-700 (800) 378-3854 *InfoLink No. 604*	**$799**	1,280 by 1,024 dpi	2/11; 2MB	Serial	Adobe PhotoDeluxe	High-res photos; compact and stylish design.	No optical zoom; yellowish images.	☆☆☆☆ **Clever camera with mildly flawed results.**
Nikon Coolpix 900 (800) 526-4566 *InfoLink No. 605*	**$899**	1,280 by 960 dpi	6/24; 4MB	Serial	Adobe PhotoDeluxe, InMedia Slides & Sounds Plus 2.0	Great photos; 3X optical zoom.	Only 4MB of memory.	☆☆☆☆ **A flexible camera.**
Olympus America D-340L, (800) 347-4027 *InfoLink No. 606*	**$699**	1,280 by 960 dpi	9/60; 4MB	Serial	PhotoDeluxe, Enroute QuickStitch, InMedia Slides & Sounds	Excellent photos.	Only 4MB of RAM; no optical zoom.	☆☆☆☆ **A great mega-pixel pick.**
Olympus America D-600L, (800) 347-4027 *InfoLink No. 607*	**$999**	1,280 by 1,024 dpi	4/49; 4MB	Serial	Adobe PhotoDeluxe, Enroute QuickStitch	Superb pictures; 3X optical zoom.	A bit pricey; only 4MB of RAM.	☆☆☆☆ **A well-rounded contender.**
Polaroid PDC-3000 (800) 552-0711 *InfoLink No. 608*	**$2,495**	1,600 by 1,200 dpi	36/75; 20MB	SCSI-2	Polaroid PDC-3000 Direct Plug-In for Adobe Photoshop	High resolution; stylish design; generous RAM.	High price; slightly muted colors.	☆☆☆☆ **When money's no object.**

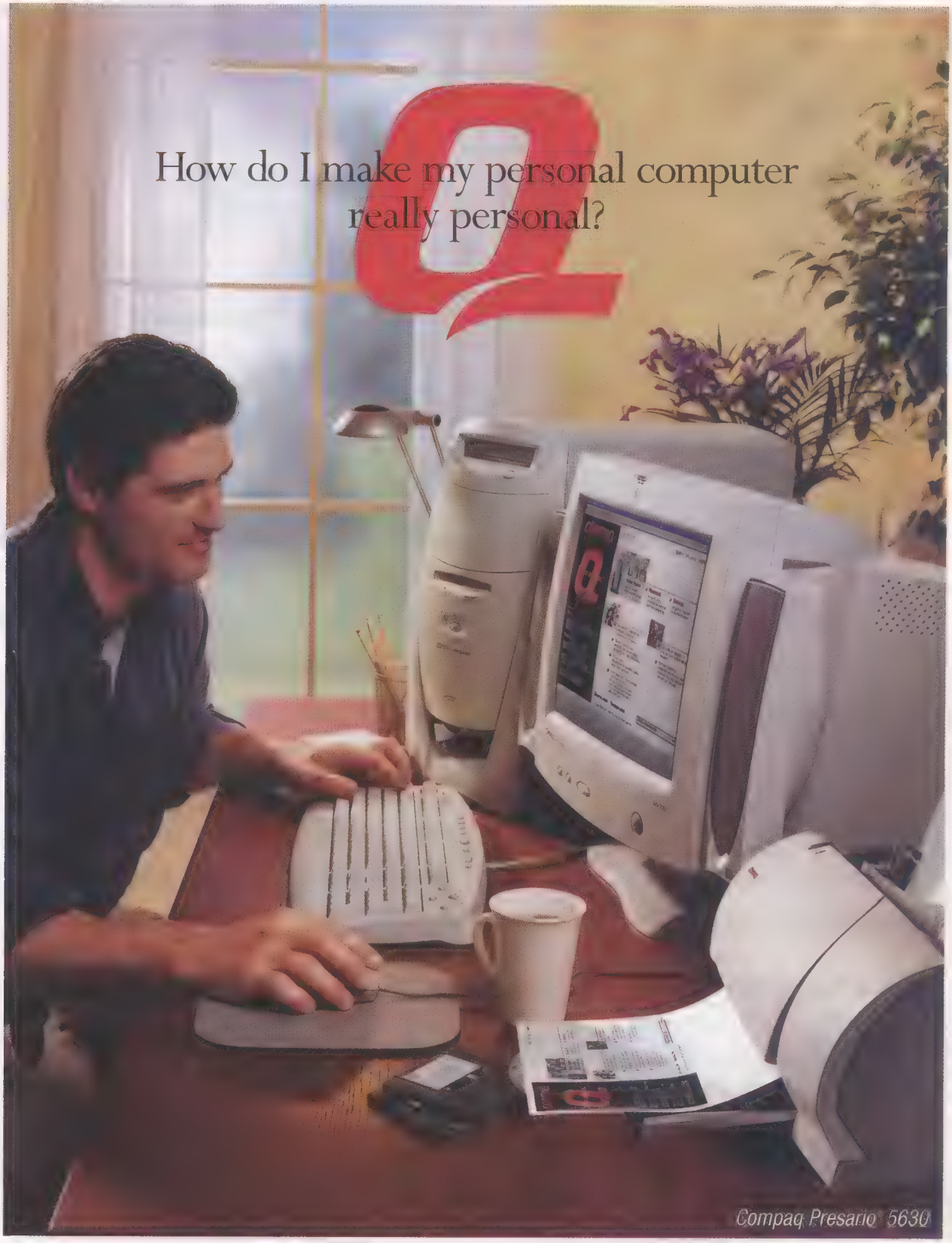
[1]FOR MORE INFO GO TO WWW.PCCOMPUTING.COM/INFOLINK. [2]EST. STREET PRICE.

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE **(continued on page 227)**

USABILITY CLOSE-UP Digital Cameras

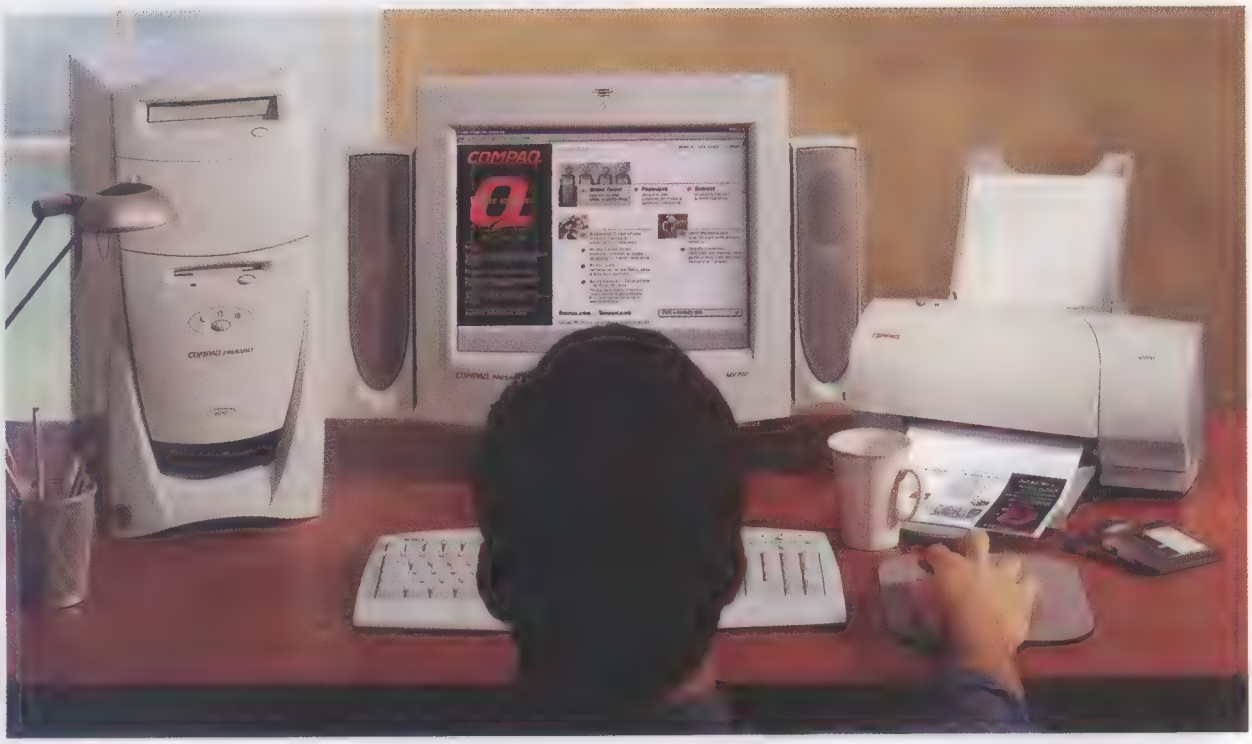
Superb Settings **The colorful onscreen menu system and big arrow button on the Kodak DC260 make it easy to manage the powerful camera's many settings, modes, and options.**

Flexibility **The split-body, pivoting lens design of the Nikon Coolpix 900 puts the lens and LCD screen where you want them, even at unusual angles.**



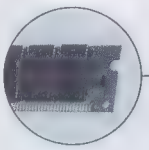
intel inside
pentium® II PROCESSOR

COMPAQ



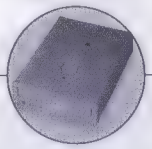
Easy. Have Compaq build one for you. Nobody knows what your computer needs are as well as you do. So shouldn't you be the one to decide what goes into yours? When you order these Presario Internet PCs you're in the driver's seat. You choose how much memory you want, hard drive size, whether you want a CD-ROM drive or DVD, advanced graphics, video memory, even the type of monitor you want. And you don't need a degree in computer engineering to build the computer that best suits your needs — we'll build it for you. And if you're not sure what features are best for you, we'll help you decide. Just call Compaq, visit our website, or stop by a Compaq *Built For You Custom PC Center* at select retailers. **Bring the world's best-selling computer home today.**

Here are some of the features we can personalize for you:



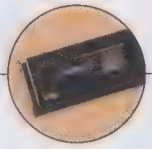
Memory

Speed up performance by choosing from 64 MB to a whopping 384 MB of Synchronous DRAM.



Hard Drive Size

Whether you're writing the great American novel or just surfing the Net, we've got the hard drive size that's right for you.



Processor Speed

You can choose from the latest Intel® Pentium® II Processors, including the new 450 MHz.

CD-ROM/DVD

A built-in Zip drive, CD-ROM, or DVD drive is the perfect way to accessorize and get the most from your Presario PC.

Monitor/Display

All our monitors assure that your applications will be displayed boldly and vividly.

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All prices shown are Compaq Direct selling price after applicable rebate. Prices shown do not include applicable sales tax and shipping. Products and prices valid in U.S. only. Actual retail price may vary. Specifications and prices are subject to change or cancellation without notice. Not all Compaq Presario models available in all retail stores. ***50 free hours of Internet access is offered when Compaq Easy Internet Access is chosen from Compaq Internet Setup. Valid only on selected Presario minitower, desktop, and notebook models. For select minitower and desktop models, the 50 free hours can be used over a 45-day period, up to 2 hours per day. A valid credit card will be required in order to continue service after the trial period. For select notebook models: the 50 free hours must be used over a 30-day period from initial setup. A valid credit card is required to initiate service, although no charges will be incurred until the 50-hour trial has expired. **$100 mail-in rebate from Compaq upon activation of this free trial of Compaq Easy Internet Access. Valid only on selected Presario minitower, desktop, and notebook models. Rebate offer valid only in the USA and expires 4/30/99. See rebate coupon included with product for additional terms and conditions.**

COMPAQ

Here are just a few of the dozens of possible combinations:

Compaq Presario 5600-350

$1,799
-$100 mail-in rebate**

$1,699

Base price includes:
- Intel® Pentium® II Processor, 350 MHz
- 10.0 GB UltraDMA Hard Drive[1]
- 32X Max CD-ROM Drive[4]
- 64 MB SyncDRAM expandable to 384 MB
- 56K ITU v.90 Modem[2]
- 2X AGP Graphics w/8 MB SGRAM
- 10 Mbps Ethernet port, Cable Modem Ready
- Microsoft® Office 97 Small Business Edition
- Microsoft Windows®98
- Presario MV 700 17" Monitor (15.9" VIA)
- JBL Pro Speakers

Personalize it by choosing:
- 128 MB SyncDRAM: Add $100
- Compaq V910 19" Monitor (18.0" VIA): Add $70
- 5X DVD-ROM Drive:[5] Add $100

Compaq Presario 5600-400

$2,099
-$100 mail-in rebate**

$1,999

Base price includes:
- Intel Pentium II Processor, 400 MHz
- 10.0 GB UltraDMA Hard Drive[1]
- 32X Max CD-ROM Drive[4]
- 64 MB SyncDRAM expandable to 384 MB
- 56K ITU v.90 Modem[2]
- Digital Creativity Imaging Center w/1394
- 2X AGP Graphics w/8 MB SGRAM
- 10 Mbps Ethernet port, Cable Modem Ready
- Microsoft Office 97 Small Business Edition
- Microsoft Windows98
- Presario MV 700 17" Monitor (15.9" VIA)
- JBL Pro Speakers

Personalize it by choosing:
- Internal Iomega Zip Drive w/2 disks: Add $99
- Compaq V910 19" Monitor (18.0" VIA): Add $70
- Diamond Viper 550 w/16 MB SDRAM: Add $79

Compaq Presario 5600-450

$2,499
-$100 mail-in rebate**

$2,399

Base price includes:
- Intel Pentium II Processor, 450 MHz
- 13.5 GB UltraDMA Hard Drive[1]
- 32X Max CD-ROM Drive[4]
- 128 MB SyncDRAM expandable to 384 MB
- 56K ITU v.90 Modem[2]
- 2X AGP Graphics w/8 MB SGRAM
- 10 Mbps Ethernet port, Cable Modem Ready
- Microsoft Office 97 Small Business Edition
- Microsoft Windows98
- Compaq V910 19" Monitor (18.0" VIA)
- JBL Pro Speakers

Personalize it by choosing:
- 16.8 GB Hard Drive: Add $122
- 5X DVD-ROM Drive:[5] Add $100
- JBL Pro Premium Speakers w/Subwoofer: Add $79

Compaq Presario 5600-400

$2,399
-$100 mail-in rebate**

$2,299

Base price includes:
- Intel Pentium II Processor, 400 MHz
- 10.0 GB UltraDMA Hard Drive[1]
- 5X DVD-ROM Drive[5]
- 128 MB SyncDRAM expandable to 384 MB
- 56K ITU v.90 Modem[2]
- 2X AGP Graphics w/8 MB SGRAM
- 10 Mbps Ethernet port, Cable Modem Ready
- Microsoft Office 97 Small Business Edition
- Microsoft Windows98
- Compaq V910 19" Monitor (18.0" VIA)
- JBL Pro Premium Speakers w/Subwoofer

Personalize it by choosing:
- 13.5 GB Hard Drive:[1] Add $51
- Internal Iomega Zip Drive w/2 disks: Add $99
- Diamond Viper 550 w/16 MB SDRAM: Add $79

Compaq Presario 5600-450

$2,849
-$100 mail-in rebate**

$2,749

Base price includes:
- Intel Pentium II Processor, 450 MHz
- 16.8 GB UltraDMA Hard Drive[1]
- 5X DVD-ROM Drive[5]
- 128 MB SyncDRAM expandable to 384 MB
- 56K ITU v.90 Modem[2]
- Digital Creativity Imaging Center w/1394
- 2X AGP Graphics w/8 MB SGRAM
- 10 Mbps Ethernet port, Cable Modem Ready
- Microsoft Office 97 Small Business Edition
- Microsoft Windows98
- Compaq V910 19" Monitor (18.0" VIA)
- JBL Pro Premium Speakers w/Subwoofer

Personalize it by choosing:
- 256 MB SyncDRAM: Add $250
- Internal Iomega Zip Drive w/2 disks: Add $99

Compaq Presario FP 500

Upgrade from a Compaq V910 Monitor to an FP 500 Monitor for only $430.
- 14.1" Viewable TFT Active Matrix Display
- XGA 1024 x 768 Resolution
- Detachable JBL Pro Speakers (not shown above)
- Integrated Telex® Microphone
- Digital Flat Panel (DFP) Interface
- Energy Star Compliant
- Universal Power Supply

Buy one of these computers and get **50 free hours** on the Net*. Plus, get a **$100 rebate** on these select Compaq Presario minitower, desktop, or notebook PCs when you sign up for this Compaq Easy Internet Access free trial.**

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Take advantage of Compaq values at any of these qualified retailers:

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Compaq Presario 1800-300

$3,099
-$100 mail-in rebate**

$2,999

Base price includes:
- Intel® Pentium® II Processor, 300 MHz
- 13.3" TFT Active Matrix XGA Display
- 64 MB SyncDRAM expandable to 160 MB
- 4.0 GB UltraDMA Hard Drive[1]
- 24X Max CD-ROM Drive[3]
- 56K ITU v.90 Modem[2]
- Smart Lilon Battery
- 512 KB L2 Pipeline Burst Cache
- 256-bit Accelerated Graphics w/2.5 MB VRAM
- Easy Access Buttons
- JBL Pro Audio with Bass Reflex
- Microsoft® Office 97 Small Business Edition
- Microsoft Windows®98

Personalize it by choosing:
- 96 MB SyncDRAM: Add $100
- 6.4 GB Hard Drive:[1] Add $200
- 2nd-Generation DVD-ROM Drive:[6] Add $200

Compaq Presario 1800-266S

$2,699
-$100 mail-in rebate**

$2,599

Base price includes:
- Intel Pentium II Processor, 266 MHz
- 12.1" TFT Active Matrix Display
- 64 MB SyncDRAM expandable to 160 MB
- 4.0 GB UltraDMA Hard Drive[1]
- 24X Max CD-ROM Drive[3]
- 56K ITU v.90 Modem[2]
- Smart Lilon Battery
- 512 KB L2 Pipeline Burst Cache
- 256-bit Accelerated Graphics w/2.5 MB VRAM
- Easy Access Buttons
- JBL Pro Audio with Bass Reflex
- Microsoft Office 97 Small Business Edition
- Microsoft Windows98

Personalize it by choosing:
- 96 MB SyncDRAM: Add $100
- 6.4 GB Hard Drive:[1] Add $200
- 2nd-Generation DVD-ROM Drive:[6] Add $200

Compaq Presario 1800-300S

$2,899
-$100 mail-in rebate**

$2,799

Base price includes:
- Intel Pentium II Processor, 300 MHz
- 12.1" TFT Active Matrix Display
- 64 MB SyncDRAM expandable to 160 MB
- 4.0 GB UltraDMA Hard Drive[1]
- 24X Max CD-ROM Drive[3]
- 56K ITU v.90 Modem[2]
- Smart Lilon Battery
- 512 KB L2 Pipeline Burst Cache
- 256-bit Accelerated Graphics w/2.5 MB VRAM
- Easy Access Buttons
- JBL Pro Audio with Bass Reflex
- Microsoft Office 97 Small Business Edition
- Microsoft Windows98

Personalize it by choosing:
- 96 MB SyncDRAM: Add $100
- 6.4 GB Hard Drive:[1] Add $200
- 2nd-Generation DVD-ROM Drive:[6] Add $200

Compaq IJ 200

$129.99

- Single-head thermal inkjet technology
- Up to 600 x 600 DPI resolution
- Sharp text and sharp color prints
- Print Speeds:
  Up to 3½ pages per minute black
  Up to 1½ pages per minute color
- Paper tray holds up to 30 sheets

Compaq IJ 700

$229.99

- Dual-head thermal inkjet technology
- 6-color photo-printing capability
- Up to 1200 x 1200 DPI resolution
- Sharp text and sharp color prints
- Print Speeds:
  Up to 5 pages per minute black
  Up to 2 pages per minute color

Compaq IJ 900

$299.99

- Dual-head thermal inkjet technology
- High-speed, high-quality text and graphics, even on plain paper
- Up to 1200 x 1200 DPI resolution
- Sharp text and sharp color prints
- Print Speeds:
  Up to 8 pages per minute black
  Up to 4 pages per minute color

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Every Compaq product comes with a standard one-year limited warranty[7] and the assurance of our Extra Mile Service, the most comprehensive and flexible PC support available. You'll have access to fast, accurate, 7x24 technical support via the phone or Web.

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[1]For hard drives, GB = billion bytes. [2]ITU v.90 modems are designed only to allow faster downloads from K56flex or v.90 compliant digital sources. Maximum achievable download transmission rates are currently unknown, may not reach 56 kilobits per second (Kbps), and will vary with line conditions. [3]24X Max CD-ROM data transfer rates may vary from 1500 to 3600Kbps. [4]32X Max CD-ROM data transfer rates may vary from 1800 to 4800Kbps. [5]The 5X DVD-ROM Drive transfer rate is up to 6.750 KB/s compared to 1.352 KB/s for 1X DVD-ROM Drives. [6]2nd-Generation DVD-ROM Drives run at a higher maximum transfer rate of up to 2.76 MB/s compared to 1X DVD-ROM Drives which run at a maximum transfer rate of up to 1.348 MB/s. [7]One year parts and labor. Labor for desktop systems is carry-in service with on-site service during the first 90 days of ownership. Labor for notebook systems is pick-up service. Compaq is not liable for pictorial or typographical errors in this advertisement. Compaq, the Compaq Logo, and Presario registered in U.S. Patent and Trademark Office. Microsoft, MS, and Windows are registered trademarks of Microsoft Corporation. Intel, the Intel Inside Logo, and Pentium are registered trademarks of Intel Corporation. Product and company names mentioned herein may be trademarks and/or registered trademarks of other companies. **Call Compaq Monday-Friday 7:00am-11:00pm (CST), Saturday and Sunday 7:00am-7:00pm (CST).** ©1998 Compaq Computer Corporation. All rights reserved.

COMPAQ
Better answers.℠

Top Digital Cameras

(continued from page 222)

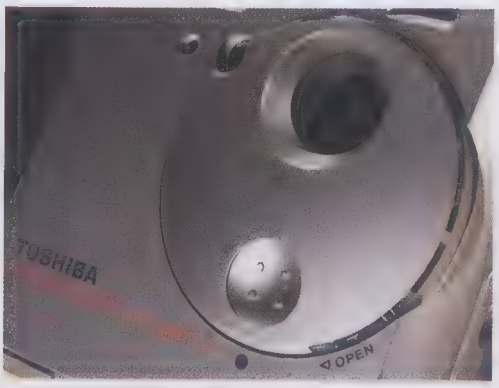
PRODUCT[1]	Price[2]	Maximum Resolution	Images (Best/ Standard); Storage	Interface	Bundled Software	Pros	Cons	Verdict
Hewlett-Packard PhotoSmart C20 (888) 474-3867	**$499**	1,152 by 872 dpi	8/40; 4MB	Serial	HP Photo Finishing, Microsoft Picture It	Good photos; low price.	No zoom; overexposed images.	☆☆☆ **Fine for tight budgets.**
Konica Q-M100 Digital Still Camera (800) 285-6422 *InfoLink No. 609*	**$599**	1,152 by 872 dpi	10/50; 4MB	Serial	Adobe PhotoDeluxe	Fine pictures; low price.	No optical zoom; slightly overexposed images.	☆☆☆ **A middle-of-the-pack camera.**
Toshiba Imaging Systems PDR-M1 (800) 550-8674 *InfoLink No. 610*	**$599**	1,280 by 1,024 dpi	5/40; 4MB	Serial	Sierra Imaging Image Expert	Sharp pictures; low price.	No optical zoom; brownish tint to images.	☆☆☆ **A stylish but basic shooter.**
XGA								
PC Computing BEST **Olympus America D-500L** (800) 347-4027 *InfoLink No. 611*	**$699**	1,024 by 768 dpi	3/24; 2MB	Serial	Adobe PhotoDeluxe, Enroute QuickStitch, InMedia Slides & Sounds	Excellent photos; 3X optical zoom; many controls.	Pricey for XGA; only 2MB of memory.	☆☆☆☆☆ **The best XGA camera you can buy.**
Agfa ePhoto 780 (888) 281-2302 *InfoLink No. 612*	**$399**	1,024 by 768[3] dpi	12/96; 2MB	Serial	Agfa PhotoWise, Kai's PhotoSoap SE	Good photos; low price.	VGA sensor resolution; no zoom.	☆☆☆☆ **An amazing bargain.**
Canon PowerShot A5 (800) 652-2666 *InfoLink No. 613*	**$699**	1,024 by 768 dpi	89/ 236; 8MB	Serial	Ulead PhotoImpact 4.0, PhotoStitch 2.1, TimeTunnel 2.2, SlideShow Maker 1.1.	Great images; 8MB of RAM; compact design.	Pricey for an XGA model; no optical zoom.	☆☆☆☆ **A well-equipped choice.**
Sanyo VPC-X300 (818) 998-7322 ext. 293 *InfoLink No. 614*	**$499**	1,024 by 768 dpi	12/60; 4MB	Serial	MGI Photosuite SE	Crisp pictures; low price.	No optical zoom.	☆☆☆☆ **You'll love the images and the price.**
Vivitar ViviCam 3100 (805) 498-7008 *InfoLink No. 615*	**$499 list**	1,920 by 1,600[3] dpi	33 (1 mode); 2MB	Serial	LivePix Image Enhancement, Photo Vista Panorama	Low price.	No LCD screen; no optical zoom.	☆☆☆ **Not bad, but you can do better.**

[1]FOR MORE INFO GO TO WWW.PCCOMPUTING.COM/INFOLINK. [2]EST. STREET PRICE. [3]SENSOR RESOLUTION IS 960 BY 800.

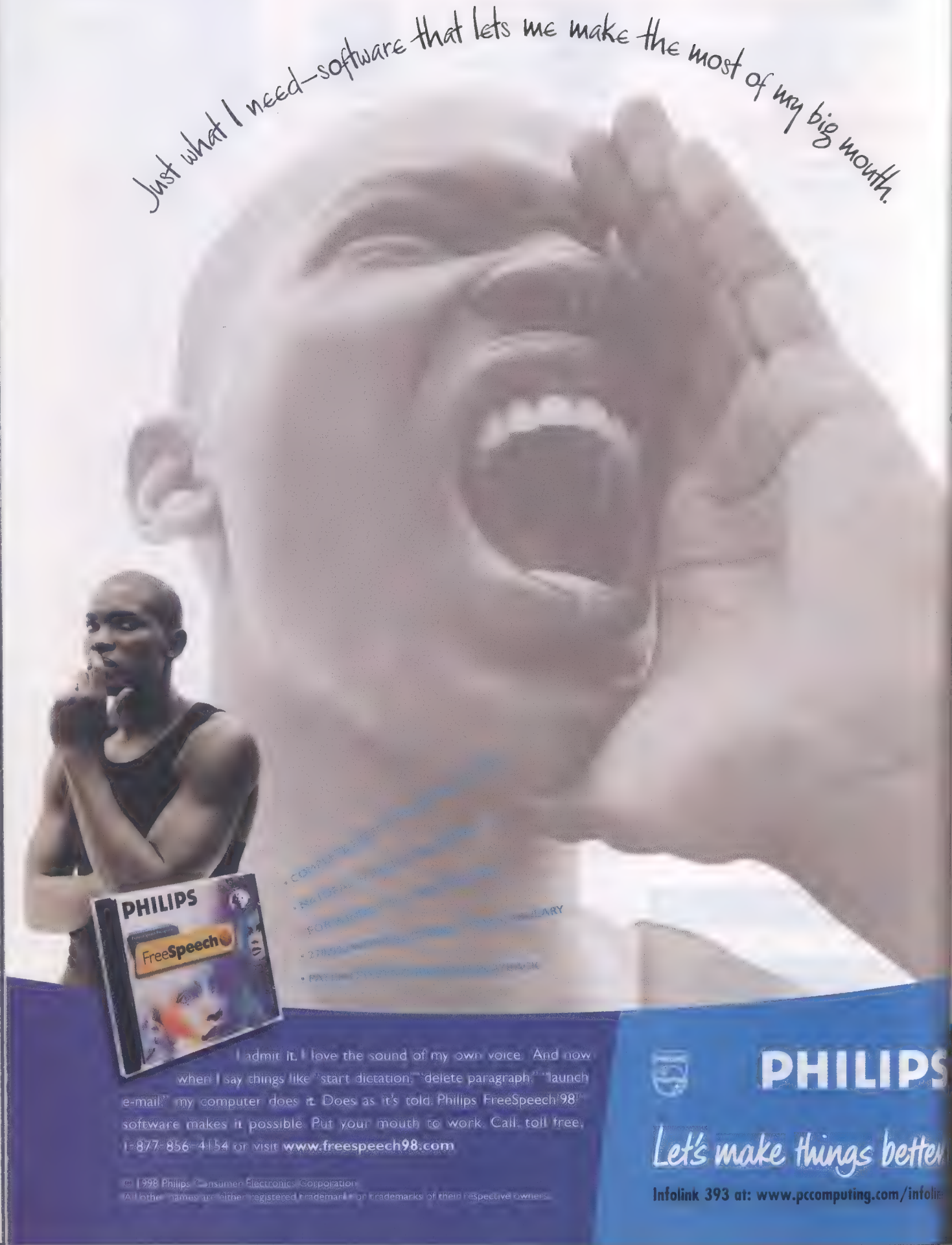
RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

USABILITY CLOSE-UP Digital Cameras

Virtual Film Some cameras have internal memory; others have removable cards. Epson's PhotoPC 700 gives you both so you always have storage in the camera.



Safe and Sound To protect its glass lens, Toshiba's PDR-M1 has a circular plate that rotates to reveal the lens and turn on the camera. In the off position, the lens is covered.


Just what I need—software that lets me make the most of my big mouth.
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WE FIRED OUR CELEBRITY SPOKESMODEL AND PASSED THE SAVINGS ON TO YOU

Who needs a big-name endorsement anyway? This is, after all, the Lightware VP800, already the industry's favorite ultra-portable LCD projector. It's got bright, crisp SVGA image resolution, it's easy to use (just plug and project), it's lightweight at just 9.3 pounds, and at a breakthrough $1995 you're simply not going to find a better projector anywhere. And if our new spokesmodel wasn't made out of a sock, we're pretty sure she'd tell you the same thing. For more information call Lightware at 800-445-9396, visit us online at www.lightware.com or contact one of the resellers below.

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Adtech
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Southwestern US
Amarch
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Mid-Atlantic US
Future Enterprises
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Southeastern US
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800-849-4088

Central US
Commercial Equipment Company
800-968-9006

Throughout the US
Projection Direct
800-969-8404

Price subject to change without notice. Valid on VP800 at participating resellers only. *Price stated in U.S. dollars.

Instant Image

Nice picture. Too bad it's posted on your office bulletin board, not your Web site. Your slick new digital camera can't help you with that—but a flatbed scanner can. And a scanner will do a lot more than bring existing images into your PC: It'll clean the paper off your desk, make copies, even take the place of your fax machine.

No doubt about it, every office needs one. The question is how much scanner do you need: Can you get by with a $150 budget model that produces 24-bit images? Or should you spend at least five times as much to get the image quality of a 30-bit scanner? We looked at 20 scanners to help you decide—14 budget models that scan in 24-bit color and 6 midrange models that scan in 30-bit color.

The budget flatbeds prove that you can buy a lot of scanner for the price of just a few Zip disks. These scanners cost from $79 to $299, and most are about as easy to install as a mouse, thanks to their parallel-port connections.

The midrange scanners vary dramatically in price. Umax Technologies' Astra 2400S picks up the low end at $499, while Heidelberg's Saphir tops the chart at $1,099. In general, stepping up to a midrange scanner buys you more consistent image quality—all these scanners performed well. Most also come with calibration software and legal-size beds for larger scan jobs.

You'll want to choose a budget scanner for working with images that will end up on the Web or your PC, and for occasional image scanning that you'll print out. A midrange scanner is best when you need higher-quality output for printed materials or you want the flexibility of scanning odd-size documents.

Watch the Clock In our tests we found that the difference between the fastest and slowest scanners won't even give you enough time to check your voice mail. Most of the budget models took an average of about 40 seconds to make a 300-dpi scan, though Canon's CanoScan FB 320P and Visioneer's PaperPort OneTouch clocked in at a lethargic 4 minutes. Meanwhile, all the midrange scanners performed well. Each took less than a minute to generate a 300-dpi scan.

Although Acer Peripherals' AcerScan Prisa 610S was the fastest budget scanner, its poor scan quality means that you either waste additional time adjusting color balance or relegate it to text scanning. Plus, its SCSI interface makes for tricky installation. The other SCSI scanner we tested, the Pacific Image Electronics ScanAce 1236-P, performed only as well as the parallel-port models.

We also looked at one of the first USB scanners, the Umax Astra 1220U, which promised faster performance thanks to USB. Though it didn't suffer from any of the driver problems that plague other early USB products, the Astra 1220U was as slow as the parallel-port scanners we tested. Our other complaint with this scanner? It still requires a separate AC adapter.

Super Scanners **For inexpensive scans, nothing beats the $129 Agfa SnapScan EZ (top). For speed and software, try the $699 Epson Expression 636 Artist 2.**

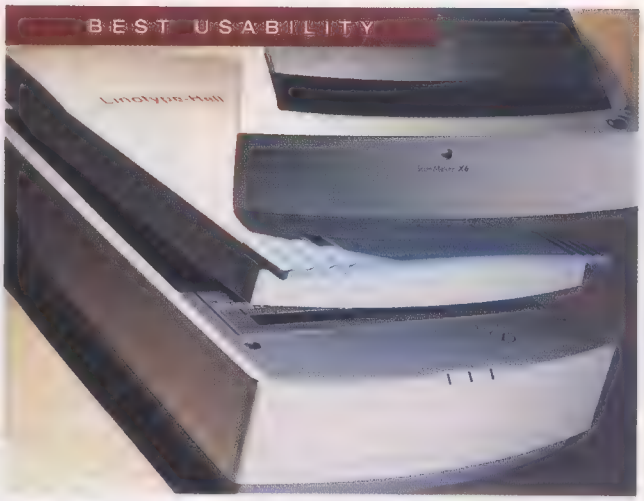
Your best budget bet is the $129 Agfa SnapScan EZ. The AcerScan Prisa 610S may be a hair faster, but the SnapScan EZ's image quality is unsurpassed, even without tweaking any controls. Among the midrange scanners, our favorite is Epson's $699 Expression 636 Artist 2. It's the fastest and it has the best image quality, plus excellent software. It also excels at prescanning, rendering a preview image in about 4 seconds—quick enough so that you won't mind using this handy feature regularly.

Take Control A scanner's usability determines whether you're satisfied with it on a day-to-day basis. One of the newest gimmicks is a quick-start button that automates the scan process, turning your scanner into the digital equivalent of a toaster. But look closely: The quick-start buttons on some scanners (like the InfoImaging Color Scan&Fax and the Ultima Artec ViewStation AM12E) don't actually do anything unless the scanner software is already loaded. What's the point?

Other scanners get the quick-start button right and leap into action when it's pressed. The Visioneer PaperPort OneTouch is the most sophisticated of these, with different buttons for faxing, scanning, and copying, plus one that's customizable. A twist on this feature appears on the Mustek Plug-n-Scan A3 EP, which launches its scanning software when you open the scanner's lid.

Beyond scan buttons, what really matters is the scanner's software. Our top budget pick, the Agfa SnapScan EZ, gives you a choice of programs: Foto Snap for fast, automated scanning, and Foto Look for when you need to adjust resolution and other image settings. The Microtek ScanMaker X6 has the slickest scanning software by far, with a resizable preview window, high-resolution zoom preview, easy-to-use batch scanning tool, and simple output scaling. The PaperPort OneTouch also does a fine job with its award-winning scanning software, and the InfoImaging Color Scan&Fax uses a unique voice-recognition system for

Scanner Savings **Who can resist Canon's $79 CanoScan FB 320P (top)? In the midrange, the Umax Astra 2400S packs in lots of extras for just $499.**



Hassle Free **The affordable Microtek ScanMaker X6 (top) has the most versatile software, while the midrange Heidelberg Saphir is the most sophisticated.**

activating the scanner—one that actually works.

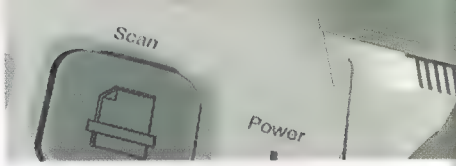
Among the midrange models, we only wish that all scanners used the LinoColor ColorFactory Pro software that comes with Heidelberg's Saphir. It features a large, resizable preview window and a customizable interface. It also includes calibration tools and a ColorAssistant that lets you change effects like contrast and skin tone with the click of a button.

Perhaps the most innovative—and controversial—scanning software comes from Hewlett-Packard. The software

continued on page 234

DECISION MAKER WHICH **SCANNER** IS RIGHT FOR YOU?

1 Choose the factor that's most important.	2 Choose the next most important factor.	3 What type of scanner?	4 For your needs, the best scanner is . . .
Image Quality	Usability	Budget	Agfa SnapScan EZ
		Midrange	Pacific Image ScanAce III
	Price	Budget	Agfa SnapScan EZ
		Midrange	Epson Expression 636 Artist 2
Usability	Image Quality	Budget	Visioneer PaperPort OneTouch
		Midrange	Pacific Image ScanAce III
	Price	Budget	Microtek ScanMaker X6
		Midrange	Heidelberg Saphir
Price	Image Quality	Budget	Canon CanoScan FB 320P
		Midrange	Umax Astra 2400S
	Usability	Budget	Agfa SnapScan EZ
		Midrange	Umax Astra 2400S



True Scans

The proof is in the scanning. You can always adjust a scanner's color balance and brightness manually, but models that don't need any tweaks pay for themselves in time saved. Look for scans that match the original as closely as possible. Here's how our scanners fared in comparison to the original.

Color Balance The scan should reproduce the colors in the original without shifting them—that is, making the image more blue, red, or yellow.

Brightness and Contrast A scanner should get the overall tone of the image right. Dark regions should show detail without displaying pure black or turning to mud. Without enough contrast, midtones appear out of focus.

Saturation At its worst, undersaturation leeches color out of an image and turns it gray. Oversaturation makes colors look like those in a neon sign.

Acer AcerScan Prisa 610S

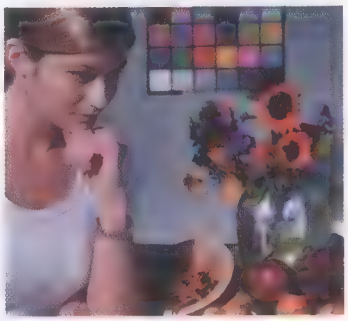
Resolution: 600 by 1,200 dpi

Bottom Line: Colors shift far to red with shadows rendering a featureless black; fine text.

Agfa SnapScan EZ

Resolution: 600 by 1,200 dpi

Bottom Line: Great color reproduction; no balance or saturation problems.



Canon CanoScan FB 320P

Resolution: 300 by 600 dpi

Bottom Line: Excellent; slightly undersaturated with muddy shadows.

Epson Expression 636 Artist 2

Resolution: 600 by 1,200 dpi

Bottom Line: Outstanding; rather cool colors, but the best graphics scan in the group; soft text.

Heidelberg Saphir

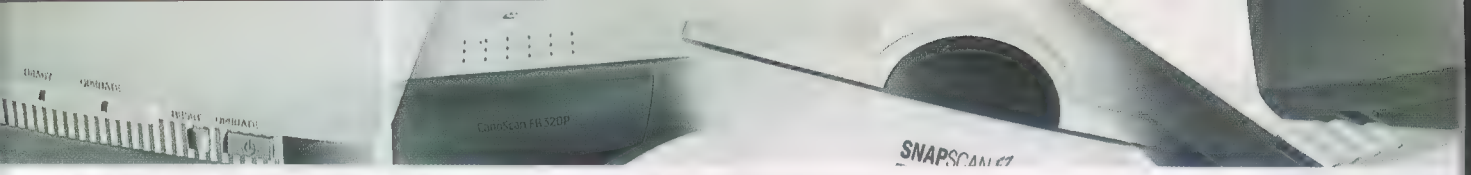
Resolution: 600 by 1,200 dpi

Bottom Line: Oversaturated image needs correction; warm tone; best text scanning in the group.

Hewlett-Packard ScanJet 5100C

Resolution: 300 dpi

Bottom Line: Very good; some oversaturation makes scan look a little hot.



NOTE: Appearance of samples may be altered during offset printing process. Image comments are based on overall comparisons of output samples from various files, not just samples shown.

Hewlett-Packard ScanJet 6100C

Resolution: 600 dpi

Bottom Line: Accurate tones; just a bit oversaturated; softer text than most scanners.

InfoImaging Color Scan&Fax

Resolution: 300 by 600 dpi

Bottom Line: Oversaturated; limited brightness and contrast minimize shadow detail.

Info Peripherals ImageReader Ultra Pro

Resolution: 600 by 1,200 dpi

Bottom Line: Low brightness and saturation renders image muddy and indistinct.

Microtek ScanMaker X6

Resolution: 600 by 1,200 dpi

Bottom Line: Hypersaturated image with too much yellow; turns all reds a surreal orange.

Mustek Paragon PowerPro

Resolution: 1,200 by 4,800 dpi

Bottom Line: Colors obviously shift toward blue; uncorrected scan too dark.

Mustek Plug-n-Scan A3 EP

Resolution: 300 by 600 dpi

Bottom Line: Limited shadow detail, undersaturation, and skewed brightness levels.

Pacific Image ScanAce 1236-P

Resolution: 600 by 1,200 dpi

Bottom Line: Fine tonal range, but a blue cast and lack of detail in shadows.

Pacific Image ScanAce III

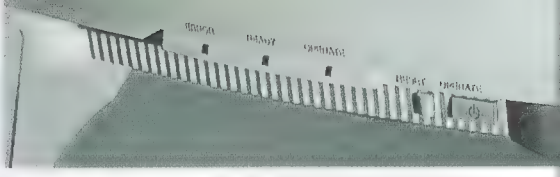
Resolution: 600 by 1,200 dpi

Bottom Line: Excellent; almost perfect tones, but warm with slightly low contrast.

Plustek OpticPro 9636T

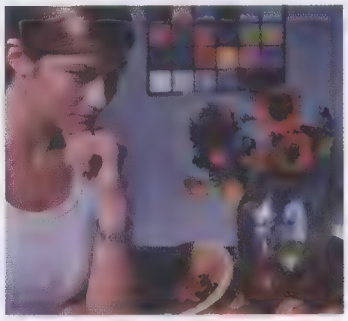
Resolution: 600 by 1,200 dpi

Bottom Line: Slight increase in saturation and brightness would make this an excellent scan.



Tamarack 9600 Pro-36
Resolution: 600 by 1,200 dpi
Bottom Line: Fair colors; pronounced blue cast markedly changes color of shirt.

Ultima Artec ViewStation AM12E
Resolution: 600 by 1,200 dpi
Bottom Line: Poor color balance—so blue that the skin is almost purple; a bit oversaturated.



Umax Astra 1220U
Resolution: 600 by 1,200 dpi
Bottom Line: Bluish cast; conspicuous lack of green; low brightness affects shadow detail.

Umax Astra 2400S
Resolution: 600 by 2,400 dpi
Bottom Line: Fine, but lacks saturation and brightness; suffers from too much blue tinge.

Visioneer PaperPort OneTouch
Resolution: 600 by 1,200 dpi
Bottom Line: Good color balance; hint of blue cast and undersaturation easily correctable.

continued from page 231

that accompanies the ScanJet 5100C and 6100C is smart enough to automatically determine which areas of the page are line art, which are text, and which are photographs. But the software is designed to eliminate decisions about resolution and image scaling. While that speeds up scanning some of the time, it's frustrating when you want to have more control over your images.

Scanner Toolbox Some scanners also come with handy extras like transparency and slide-scanning attachments that let you scan more than just paper. The Plustek OpticPro 9636T is a solid middle-of-the-pack budget scanner, and its transparency adapter is a plus for those who need slide scanning on the cheap. In the midrange category, both the Hewlett-Packard ScanJet 6100C and Heidelberg Saphir include slide scanning, but the Saphir's transparency scanning cover is significantly more versatile. The Saphir will cost you $300 more, though.

None of the scanners we looked at comes with an automatic document feeder; most charge $100 or more for the option. It's well worth the price if you plan to scan stacks of pages. With a feeder, you can load a 25-page report and copy it while you take a coffee break.

When it comes to frills, we were particularly impressed by InfoImaging's Color Scan&Fax. It does a fine job of automatic text scanning, and when you pair it with the accompanying software you can send complete documents, including images, as color faxes. At the receiving end, the fax can be converted back into an editable Word document or a Photoshop file.

Part of your scanner's job should also be to tame your paper in-box. Many scanners come with software bundles that point you toward that mythical paperless office, but a few clearly do a better job than others. Our top-pick budget scanner, Agfa's SnapScan EZ, is packed with excellent software, including the Visioneer PaperPort document management package, iPhoto Express, and Caere OmniPage.

Our top midrange scanner, Epson's Expression 636 Artist 2, is also loaded with great imaging software, including Photoshop 4.0 LE and Painter 5, as well as PaperPort. Another midrange flatbed, the Saphir, took hits for having a heart-stopping price tag.

Watch for even more new scanners by the end of the year, including Storm Technology's $249 TotalScan Express. It will offer speed, plus convenient buttons to activate scanning and other tasks. Also look for Epson's speedy $299 Perfection 636 and Mag Innovision's $149 PTS-3060 Innoscan.

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COLORFUL PEOPLE FOR LEXMARK

Top Scanners

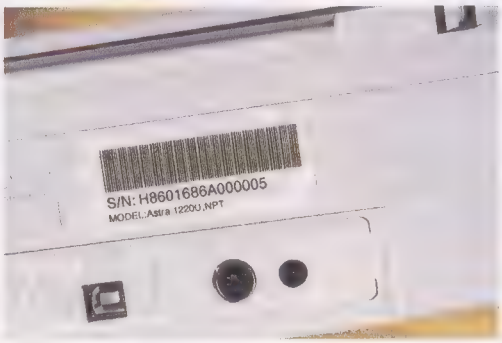
PRODUCT*	Price**	Resolution (Actual/Interpolated)	Interface Tested	Bundled Software	Pros	Cons	Verdict
Budget							
Agfa SnapScan EZ (888) 281-2302 *InfoLink No. 621*	**$129**	600 by 1,200 dpi/ 9,600 by 9,600 dpi	Parallel	Foto Snap, Foto Look 3.0, iPhoto Express, Caere OmniPage, Visioneer PaperPort	Best image quality; superb choice of scanning software; fast; enticing price.	No high-resolution zoom preview.	☆☆☆☆☆ **Excellent image quality and all the extras.**
Canon Computer Systems CanoScan FB 320P (800) 652-2666 *InfoLink No. 622*	**$79**	300 by 600 dpi/ 1,200 by 1,200 dpi	Parallel	ScanCraft CS, ScanGear CS 5.0P, TextBridge Plus, Adobe PhotoDeluxe, Canon Creative 4 (Image)	Tiny footprint; excellent software; great image quality; amazing price.	Confusing resolution controls; slow.	☆☆☆☆ **For tight spaces and tight budgets.**
Hewlett-Packard ScanJet 5100C (800) 722-6538	**$299**	300 dpi/ 1,200 dpi	Parallel	HP PrecisionScan, Caere OmniPage, Adobe PhotoDeluxe, Streetwise by Design	Handy scan button; impressive image quality.	Frustrating software; relatively expensive.	☆☆☆☆ **You'll pay for its excellent image quality.**
Microtek Lab ScanMaker X6 (800) 654-4160 *InfoLink No. 625*	**$179**	600 by 1,200 dpi/ 9,600 by 9,600 dpi	Parallel	Ulead PhotoImpact 4.0, Caere OmniPage LE, PaperMaster SEC, Kai's Photo Soap	Speedy; convenient scan button; great scanning software; high-resolution zoom preview.	Cover comes off too easily; scans have yellow bias.	☆☆☆☆ **One-button easy and great software too.**
Tamarack Technologies 9600 Pro-36 (800) 598-3918 *InfoLink No. 624*	**$149**	600 by 1,200 dpi/ 9,600 dpi	Parallel	ArcSoft's Photo Printer, Photo Fantasy, Multimedia Email, and Photo Studio; DocuMan 2.06; Xerox TextBridge	Decent image quality; small footprint.	Noisy; unreliable calibration tool.	☆☆☆☆ **A trim choice that won't dent your budget.**
Visioneer PaperPort OneTouch (800) 787-7007 *InfoLink No. 623*	**$199**	600 by 1,200 dpi/ 2,400 by 2,400 dpi	Parallel	PaperPort Software, Visioneer OCR, Visioneer Web Publishing Kit, PictureWorks PhotoEnhancer	Convenient customizable start button; good software; very quiet; fine image quality.	No high-quality zoom; slow.	☆☆☆☆ **Images worth the wait.**

*FOR MORE INFORMATION, GO TO WWW.PCCOMPUTING.COM/INFOLINK. **ESTIMATED STREET PRICE.

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE **(continued on page 237)**

USABILITY CLOSE-UP Scanners

Button-up
The Visioneer PaperPort OneTouch has buttons for scanning, copying, and faxing—plus a customizable button to set for other tasks.



USB Way
The Umax Astra 1220U shows that there's no simpler way to connect a scanner than with USB. Too bad the scanner needs its own power adapter.

Top Scanners

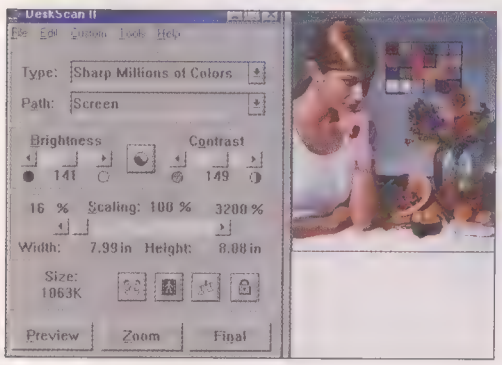
(continued from page 236)

PRODUCT*	Price**	Resolution (Actual/Interpolated)	Interface Tested	Bundled Software	Pros	Cons	Verdict
InfoImaging Technologies Color Scan&Fax (800) 966-1140 *InfoLink No. 626*	**$189**	300 by 600 dpi/ 4,800 by 4,800 dpi	Parallel	Adobe PhotoDeluxe, Xerox TextBridge Classic, 3D FaxFile	Sends and receives color faxes; easy scanning software; unique voice control.	Scan button requires software to run; saturated scans.	☆☆☆ **For faxing, it's the best bet.**
Info Peripherals ImageReader Ultra Pro (800) 777-3208 *InfoLink No. 627*	**$139**	600 by 1,200 dpi/ 9,600 by 9,600 dpi	Parallel	InfoCenter 32, PictureFun	Absolutely silent; handy software; start buttons.	Poor image quality; slow scanning.	☆☆☆ **You can get better images for less money.**
Mustek Plug-n-Scan A3 EP (800) 468-7835 *InfoLink No. 628*	**$219**	300 by 600 dpi/ 9,600 by 9,600 dpi	Parallel	Micrografx Picture Publisher 5.0, Micrografx Picture Publisher 6.0, iPhoto Plus 4, Xerox TextBridge Classic	Friendly scanning software; starts when you open the lid; batch scanning.	Short power cord; long warm-up; subpar images.	☆☆☆ **Lots of extras, but poor image quality.**
Pacific Image Electronics ScanAce 1236-P (800) 909-9996 *InfoLink No. 629*	**$149**	600 by 1,200 dpi/ 9,600 by 9,600 dpi	SCSI	Presto PageManager, Cyberview, PageImage, Wordinx, Photo Album Biz Card, Page Filer	Fine scanning software with resolution calculator; solid images; good price.	Limited batch scanning; tricky setup thanks to SCSI interface; weak software bundle.	☆☆☆ **A middle-of-the-pack choice.**
Plustek OpticPro 9636T (800) 685-8088 *InfoLink No. 630*	**$149**	600 by 1,200 dpi/ 9,600 by 9,600 dpi	Parallel	Adobe PhotoDeluxe, Micrografx Picture Publisher 7, Xerox TextBridge, Action Manager	Fastest prescan; includes slide adapter; fair price.	No high-quality zoom; doesn't remember preview.	☆☆☆ **A perfect choice for scanning slides.**
Ultima Int'l Artec ViewStation AM12E (510) 739-0800 *InfoLink No. 631*	**$80**	600 by 1,200 dpi/ 9,600 by 9,600 dpi	Parallel	ixla Photo Scanner Suite, ixla Artist, ixla Explorer, Xerox TextBridge Classic	Batch scanning; auto-area detection; sharp text scanning; excellent price.	Moderately loud; poor image quality; scan button not a time-saver.	☆☆☆ **Good for text scanning on a budget.**

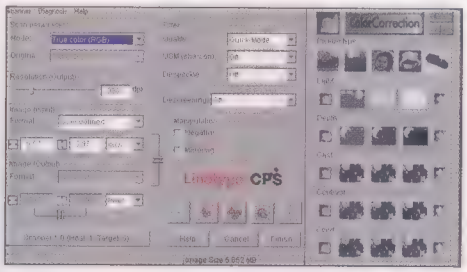
*FOR MORE INFORMATION, GO TO WWW.PCCOMPUTING.COM/INFOLINK. **ESTIMATED STREET PRICE.

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE (continued on page 238)

USABILITY CLOSE-UP Scanners



Hidden Treasure The HP ScanJet 6100C's scanning software is simple, but settings like scan resolution are buried deep.



Super Driver The Heidelberg Saphir has the best scanning software of the lot, with a large preview window and simple tools.

Top Scanners

(continued from page 237)

PRODUCT*	Price**	Resolution (Actual/Interpolated)	Interface Tested	Bundled Software	Pros	Cons	Verdict
Umax Technologies Astra 1220U (800) 562-0311 *InfoLink No. 632*	**$179**	600 by 1,200 dpi/ 9,600 by 9,600 dpi	USB	Adobe PhotoDeluxe 2.0, OmniPage Limited Edition, Presto PageManager	Convenient PowerSave control.	USB still requires external power supply; images have blue cast.	☆☆☆ **If you want USB, look no further.**
Acer Peripherals America AcerScan Prisa 610S (800) 369-6736 *InfoLink No. 633*	**$139**	600 by 1,200 dpi/ 9,600 by 9,600 dpi	SCSI	Xerox TextBridge, Ulead iPhoto Plus	Excellent, fast text scans; high-resolution zoom preview.	Poor color scans; SCSI interface makes for tricky setup.	☆☆ **Fine for text scanning.**
Midrange							
PC Computing BEST **Epson America Expression 636 Artist 2** (800) 463-7766	**$699**	600 by 1,200 dpi/ 4,800 by 4,800 dpi	SCSI	MetaCreations Painter 5, Adobe Photoshop 4.0 LE, Adobe PageMill, Visioneer PaperPort, LaserSoft SilverFast	Fastest in its class; best-quality graphics scans; rich software bundle; fair price.	Inaccurate autoselect; confusing installation; letter-size bed.	☆☆☆☆☆ **Step up to the best of all worlds—fast, good-looking, and inexpensive.**
Hewlett-Packard ScanJet 6100C (800) 722-6538	**$799**	600 dpi/ 2,400 dpi	SCSI	Adobe Acrobat 3.0, Caere OmniPage Lite, Corel PhotoPaint	Excellent scan quality; variable preview size; includes slide adapter; removable platen.	Weak software; slow; doesn't remember preview.	☆☆☆☆ **You won't be disappointed with this fully loaded scanner.**
Pacific Image Electronics ScanAce III (800) 909-9996 *InfoLink No. 634*	**$599**	600 by 1,200 dpi/ 9,600 by 9,600 dpi	SCSI	Presto PageManager, CyberView, Ulead ImagePals 2 Go, Xerox TextBridge Classic	Fast prescan; batch scanning; excellent images; great price.	Large footprint; difficult to install.	☆☆☆☆ **Near flawless scanning at a great price.**
Heidelberg Color Publishing Solutions Saphir (888) 546-6265 *InfoLink No.635*	**$1,099 list**	600 by 1,200 dpi/ 3,600 by 3,600 dpi	SCSI	LinoColor ColorFactory Pro, Xerox TextBridge, ScanLite ICC Profile, Linotype Font Explorer	Best text scanning; unsurpassed scanning software; slide adapter included.	Oversaturated, cool scans; expensive.	☆☆☆ **When money is no object, get this feature-rich model.**
Mustek Paragon PowerPro (800) 468-7835 *InfoLink No. 636*	**$749**	1,200 by 4,800 dpi/ 9,600 by 9,600 dpi	SCSI	Micrografx Picture Publisher 6.0, Ulead iPhoto Plus 4, Xerox TextBridge Classic	Supports very high resolution; batch scanning; well-rounded software bundle.	Letter-size bed; poorest uncorrected scan quality.	☆☆☆ **Too much money for too little scanner.**
Umax Technologies Astra 2400S (800) 562-0311 *InfoLink No.637*	**$499**	600 by 2,400 dpi/ 9,600 by 9,600 dpi	SCSI	Adobe Photoshop 4.0 LE, Adobe Acrobat, Caere OmniPage LE, Presto PageManager	Speedy scanning; excellent price.	Mediocre image quality.	☆☆☆ **A fine and affordable midrange scanner.**

*FOR MORE INFORMATION, GO TO WWW.PCCOMPUTING.COM/INFOLINK. **ESTIMATED STREET PRICE UNLESS NOTED OTHERWISE.

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

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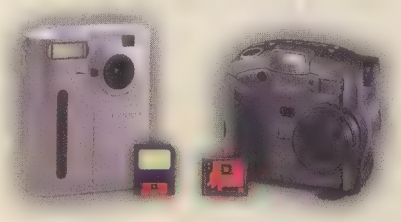

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Infolink 295 at: www.pccomputing.com/infolink

Digital Darkroom

With your new digital camera or scanner you bring images into your PC in a flash. And thanks to a new crop of affordable photo printers, you can produce custom color prints just as quickly—much faster than the photo mart promises. Choose between a trim photo-only model and a versatile machine that doubles as an office workhorse.

To help you select the right printer, we tested 12 models designed especially for digital photographs. These printers differ from standard color printers in that they either print only photographs or have an option for that purpose. Printers with this option usually require you to pop in a special photo-ink cartridge and photo paper.

But what if you already have an ink-jet color printer in the office? Do you need to buy a specialized photo printer? It depends. Photo printers often use different inks—more diluted—than their all-purpose counterparts. This helps create smoother images and flesh tones. But some of today's standard ink jets, like the Epson Stylus Color 850, do a solid job of both photos and text. If you're not happy with the photo quality of your color printer, consider one of the photo printers reviewed here.

Two of a Kind You have a choice between two types of photo printers: a dedicated model that prints only standard-size photos and a more versatile model that can also print other documents. We tested four dedicated photo printers: the Argus PhotoByte, the Casio DP-8000 Digital Photo Printer, the Mitsubishi CP2000DU, and the Olympus P-300 Photo Printer. (Another new photo printer was not available in time for our review: the $499 Fargo FotoFun Digital Color Photo Printer.) These print output only in a standard photo format, such as 4 by 6 inches. This is fine for some people, but it won't do if you need to print other size photos or enlargements of photos.

On the plus side, most of these printers are inexpensive; except for the $5,300 Mitsubishi CP2000DU, each costs $399. They are also less expensive to use than some multipurpose models. Prints typically cost less than a dollar each—half the price of prints from higher-end models—due to the smaller paper sizes and lower consumable costs. These printers are also more compact—ideal companions to your existing business printer. Finally, you can hook up a dedicated printer directly to a camera, bypassing the need to transfer images to your PC first.

We also evaluated eight of the more versatile photo printers: the Alps MD-1300 Photographic-Quality Color Printer, the Canon BJC-7004, the Epson Stylus Photo 700 and Stylus Photo EX, the Hewlett-Packard PhotoSmart, the Lexmark 5700 Color Jetprinter, the Okidata Okijet 2500, and the Xerox DocuPrint XJ6C. These let you print large (8-by-10-inch) and small (4-by-6-inch) images as well as standard text documents and other graphics. The benefits? Versatility and a low cost per page. While some models require special paper for the best results, you can save money by using plain paper for proofing.

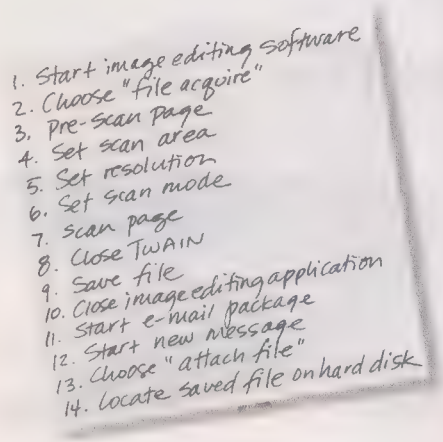
Instant Gratification **The $299 Hewlett-Packard PhotoSmart delivers stunning output that rivals printers costing ten times as much. The cost per print? Just $1.**

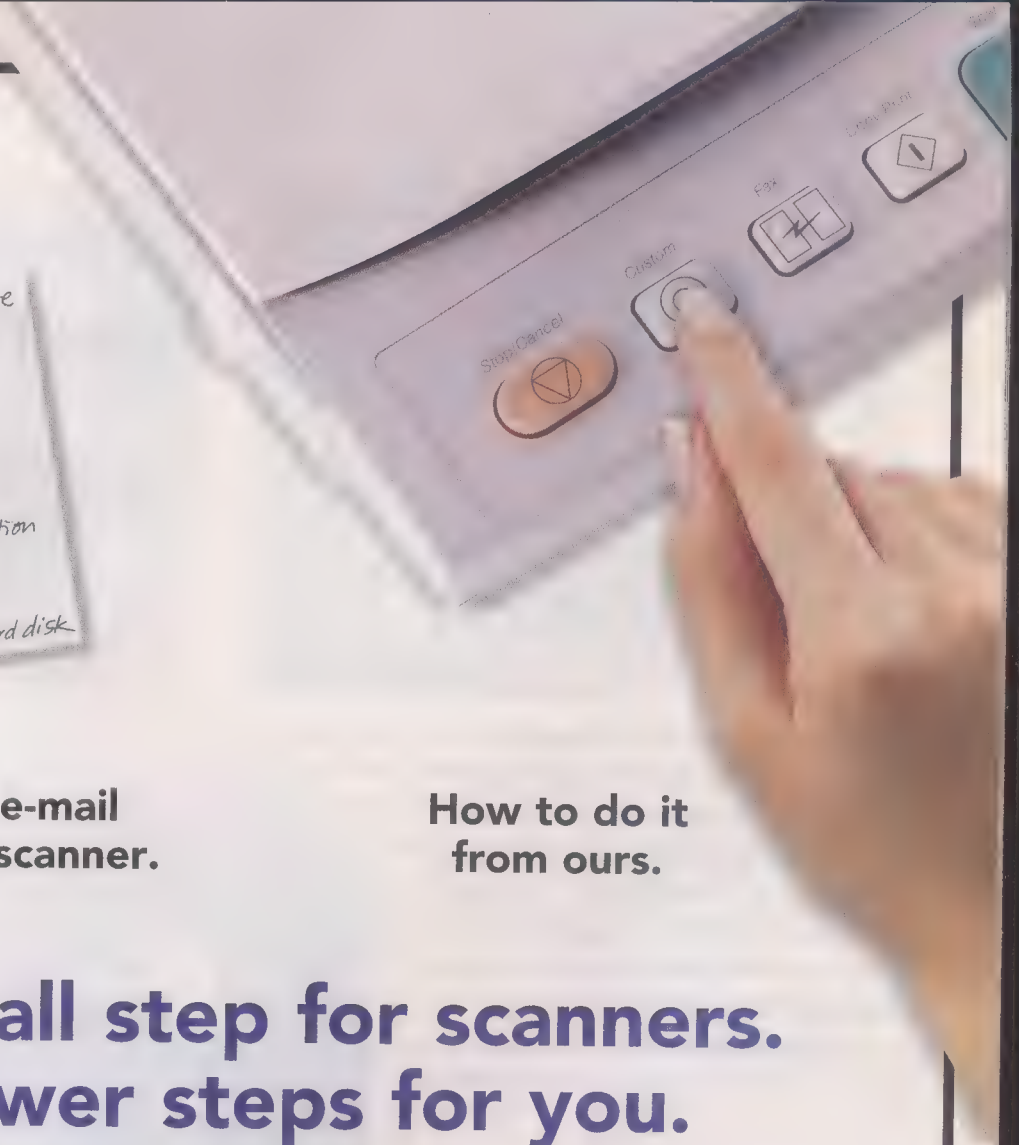
When you're considering printers, don't forget to look beyond the initial price tag. The products we tested range from the $149 Xerox DocuPrint XJ6C to the $5,300 Mitsubishi CP2000DU. But the money you spend on paper and consumables may quickly add up to more than the initial printer price. For example, photo paper for the Alps MD-1300 is more than $3 per page, while plain-paper proofs done on the Epson Stylus printers cost pennies.

Image Is Everything You want a printer that does your digital camera justice, one that reproduces images just as you originally saw them. Overly dithered or washed-out prints simply won't cut it. More than resolution, image quality is determined by the technology used. Dye-sublimation printers rely on a technique that results in smoother lines and fewer sharp edges. Colors blend together well, and these printers are especially adept at flesh tones. So even though dye-sub printers have a lower resolution than some of the ink jets, their image quality is often superior. This is the same reason why dye-sub printers aren't well suited for printing text documents—they're not very adept at printing the sharp edges required for crisp letters. Resolution is more important with ink-jet printers, where the dots on the page blend together to produce the image. With ink-jet technology, a higher resolution tends to be better, but the blends of the inks and the type of paper can affect results as well.

Two of the printers we tested stand head and shoulders above the rest when it comes to output quality: HP's $299 PhotoSmart ink-jet printer produces outstanding colors and rich image detail, and the Mitsubishi CP2000DU, which uses dye-sublimation technology, also prints knockout images that wowed our testing jury. But with a $5,000 price difference, can the two really compare?

Overall the Mitsubishi CP2000DU's colors are truer, but its images lack sufficient contrast. Conversely, the PhotoSmart's colors are a bit cooler and there's too much





How to scan and e-mail a photo from their scanner.

How to do it from ours.

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Let's face it, most scanners are not as simple as they are supposed to be.

Drag and drop, plug and play, billions of colors, and all the other terms and specs don't make a bit of difference when all you want to do is e-mail a photo. Scan a page of text into your word-processor. Or any of the other tasks you do countless times a day.

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Do It All **The $249 Lexmark 5700 Color Jetprinter does more than just photos; it also does a fine job printing text and other office documents.**

Say Cheese **If you own an Olympus digital camera, then you need the $399 Olympus P-300 Photo Printer, which connects directly to the camera.**

contrast. With a similar cost per page—about $2 per image—the PhotoSmart is clearly the better buy. The combination of outstanding image quality and low price makes it our best all-around photo printer pick. The Canon BJC-7004 also produces fine-looking photos. Another stand-out? The Alps MD-1300, which uses a unique Micro Dry thermal technology to print excellent images. But you'll pay for it: a whopping $3.47 per page.

Of the other ink jets we tested, Lexmark's 5700 Color Jetprinter and Okidata's Okijet 2500 both produce photos that

continued on page 245

DECISION MAKER WHICH PHOTO PRINTER IS RIGHT FOR YOU?

1 Choose the factor that's most important.	2 Choose the next most important factor.	3 What type of printer?	4 For your needs, the best photo printer to buy is . . .
Output Quality	Usability	Photo-only	Mitsubishi CP2000DU
		Text and Photos	Hewlett-Packard PhotoSmart
	Price	Photo-only	Olympus P-300 Photo Printer
		Text and Photos	Hewlett-Packard PhotoSmart
Usability	Output Quality	Photo-only	Olympus P-300 Photo Printer
		Text and Photos	Lexmark 5700 Color Jetprinter
	Price	Photo-only	Olympus P-300 Photo Printer
		Text and Photos	Lexmark 5700 Color Jetprinter
Price	Output Quality	Photo-only	Olympus P-300 Photo Printer
		Text and Photos	Hewlett-Packard PhotoSmart
	Usability	Photo-only	Olympus P-300 Photo Printer
		Text and Photos	Lexmark 5700 Color Jetprinter

Perfect Prints

Can photos from a printer really compare to those from a one-hour lab? Here's how to ensure the best images possible: Watch for color-matching that is true to the original. This is especially tricky where flesh tones are concerned. Also, your printer should be able to handle contrasts between light and dark well. Not enough contrast and your images look washed-out, while too much contrast results in harsh, cold colors. Your images should also be smooth—just as they are in prints from your local lab. Dithering (groups of dots) or banding (striping, especially in solid backgrounds) are particularly unappealing.

Resolution
Images should be smooth and free of dot patterns.

Vibrant Color
Look for rich, vivid, and consistent colors.

Flesh Tones
Are the skin colors accurate? Make sure your subjects don't look too orange or blue.

Color Consistency
Roses are red, not green. Your printer should reproduce colors true to the original image.

Alps MD-1300 Color Printer
Resolution: 1,200 by 600 dpi
Bottom Line: Sharp detail with fine lines; colors a little red.

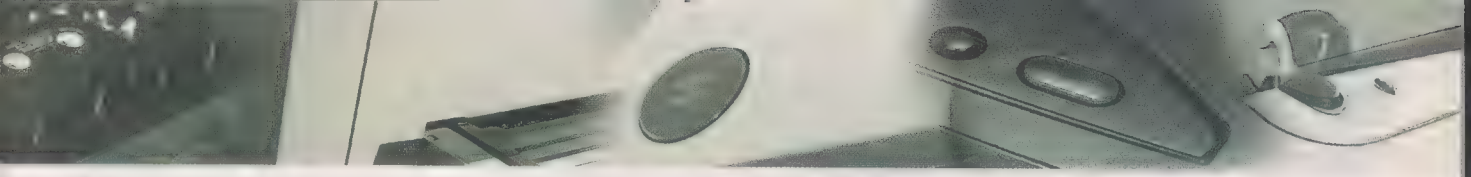
Argus PhotoByte
Resolution: 1,200 by 1,200 dpi
Bottom Line: Detailed images, but colors have yellow undertones.

Canon BJC-7004
Resolution: 1,200 by 600 dpi
Bottom Line: True color contrast; some dithering.

Casio DP-8000 Digital Photo Printer
Resolution: 297 by 446 dpi
Bottom Line: Colors a bit dark; some jaggies with lines and edges.

Epson Stylus Photo 700
Resolution: 1,440 by 720 dpi
Bottom Line: Colors extremely faded and lacking in contrast; some banding.

Epson Stylus Photo EX
Resolution: 1,440 by 720 dpi
Bottom Line: Colors lack contrast and appear very washed-out.



NOTE: Appearance of samples may be altered during offset printing process. Image comments are based on overall comparisons of output samples from various files, not just samples shown.

Hewlett-Packard PhotoSmart
Resolution: 300 dpi
Bottom Line: Outstanding color quality, detail, and contrast; colors a tad cool.

Lexmark 5700 Color Jetprinter
Resolution: 1,200 by 1,200 dpi
Bottom Line: Light colors and some dithering, but overall well-detailed images.

Mitsubishi CP2000DU
Resolution: 325 dpi
Bottom Line: Excellent colors and sharp lines; contrast a bit lighter than with the top-notch HP PhotoSmart.

Okidata Okijet 2500
Resolution: 600 dpi
Bottom Line: Fine color vibrancy, but dot patterns detract from image.

Olympus P-300 Photo Printer
Resolution: 300 dpi
Bottom Line: True colors for the entire image; lines could be sharper.

Xerox Docuprint XJ6C
Resolution: 1,200 by 600 dpi
Bottom Line: Poor color contrast and an abundance of dot patterns.

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get mixed reviews. The 5700 Color Jetprinter's output includes fine details, and the Okijet 2500 has pleasing color vibrancy, but the color from both printers was off from our original image. If you need a printer that's inexpensive to own, consider the Okijet 2500. Like the Xerox DocuPrint XJ6C (these printers have identical hardware), it uses separate cartridges for each color of ink (cyan, magenta, yellow, and black). This keeps your long-term costs down since you need to replace only individual colors when each runs out of ink.

Photos While You Wait Image quality isn't the only thing that matters. You don't want to wait a long time for your photos. The fastest printer in our tests was the Epson Stylus Photo 700. At just over two minutes per print it's nearly 70 percent faster than our slowest performer, the Mitsubishi CP2000DU, which took more than 6 minutes to output the same image. Close behind the Stylus Photo 700 were a host of other printers, including the Epson Stylus Photo EX, the Argus PhotoByte, the Olympus P-300 Photo Printer, and the Lexmark 5700 Color Jetprinter. Each of these printed the image in less than two and a half minutes.

If you want the ultimate in convenience, consider a printer that hooks up directly to your camera, bypassing the PC altogether. The best choice for this is the Olympus P-300 Photo Printer, which produces excellent dye-sublimation output. It also gets high marks for usability: It includes cables for connecting to a camera, as well as a PC, plus a 30-sheet paper tray that frees you from manual loading every time you print. By contrast, the Argus PhotoByte lacks a paper tray, forcing you to load each sheet individually. We found this tricky since it's easy to accidentally insert the paper at an angle, which results in a paper jam.

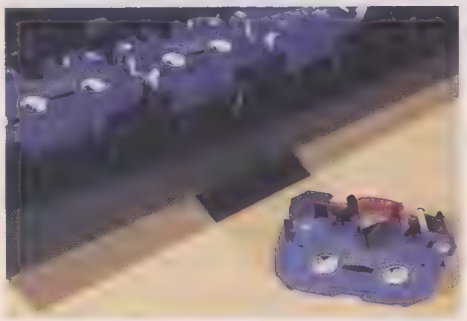
Top Photo Printers

PRODUCT*	Price**	Resolution	Type	Cost Per Page	Bundled Software	Pros	Cons	Verdict
PCComputing BEST **Hewlett-Packard PhotoSmart** (888) 474-3867	**$299**	300 dpi	Ink jet/ photo and text	$1.00	Microsoft Picture It 2.0	Spectacular output quality; enticing price.	Tricky installation; bulky; cost per page a little high.	☆☆☆☆☆ **Have it all: stunning photo output for pocket change.**
Alps MD-1300 Photographic Quality Color Printer (800) 825-2577 *InfoLink No. 646*	**$549**	1,200 by 600 dpi	Micro Dry/ photo and text	$3.47	Adobe PhotoDeluxe 2.0, XLsoft StickerPix	Sleek design and small footprint; great output.	Slow; extremely high cost per page.	☆☆☆☆ **Beautiful prints, but they'll cost you.**
Canon BJC-7004 (800) 652-2666 *InfoLink No. 647*	**$299**	1,200 by 600 dpi	Ink jet/ photo and text	$0.16	Canon Creative 3	True color contrast; low cost per page.	Images show dot patterns.	☆☆☆☆ **A low-cost contender you'll love.**
Lexmark 5700 Color Jetprinter (800) 539-6275 *InfoLink No. 648*	**$249**	1,200 by 1,200 dpi	Ink jet/ photo and text	$0.90	Lexmark Workshop for Photos	Fast; fine detail in images; excellent text quality; good price.	Visible dot patterns; colors are light.	☆☆☆☆ **Attractive photos, and text too.**
Mitsubishi CP2000DU (800) 843-2515 *InfoLink No. 649*	**$5,300**	325 dpi	Dye sub/ photo only	$2.50	None	Outstanding colors and details; helpful software print manager.	Expensive; big design; slow; tricky setup; no bundled software; prints 4-by-6-inch photos only.	☆☆☆☆ **This photo-only printer is pricey, but the images are worth it.**
Olympus America P-300 Photo Printer (800) 347-4027 *InfoLink No. 650*	**$399**	300 dpi	Dye sub/ photo only	$0.65	None	Speedy; small; paper tray means no manual feeding; connects directly to Olympus cameras; great flesh tones.	Sharp edges lost in output; no software bundle; prints 4-by-6-inch photos only.	☆☆☆☆ **If you own an Olympus camera, look no further.**

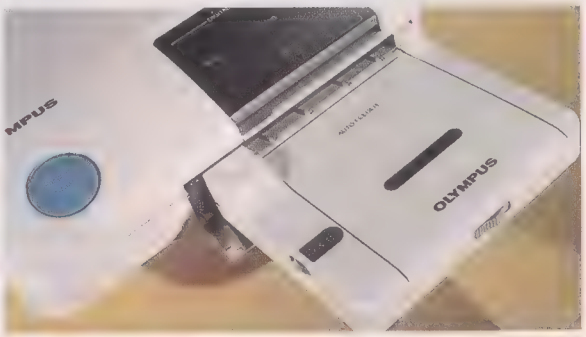
*FOR MORE INFORMATION, GO TO WWW.PCCOMPUTING.COM/INFOLINK. **ESTIMATED STREET PRICE.

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE **(continued on page 249)**

USABILITY CLOSE UP Photo Printers



Cassette-Loaded **Changing ink is easy with the Alps MD-1300's Micro Dry cassettes. These handy cartridges are a snap to pop in and out.**



Dial-a-Print **The trim Olympus P-300 Photo Printer has an easy-to-use front panel that includes an intuitive dial for selecting the number of prints.**

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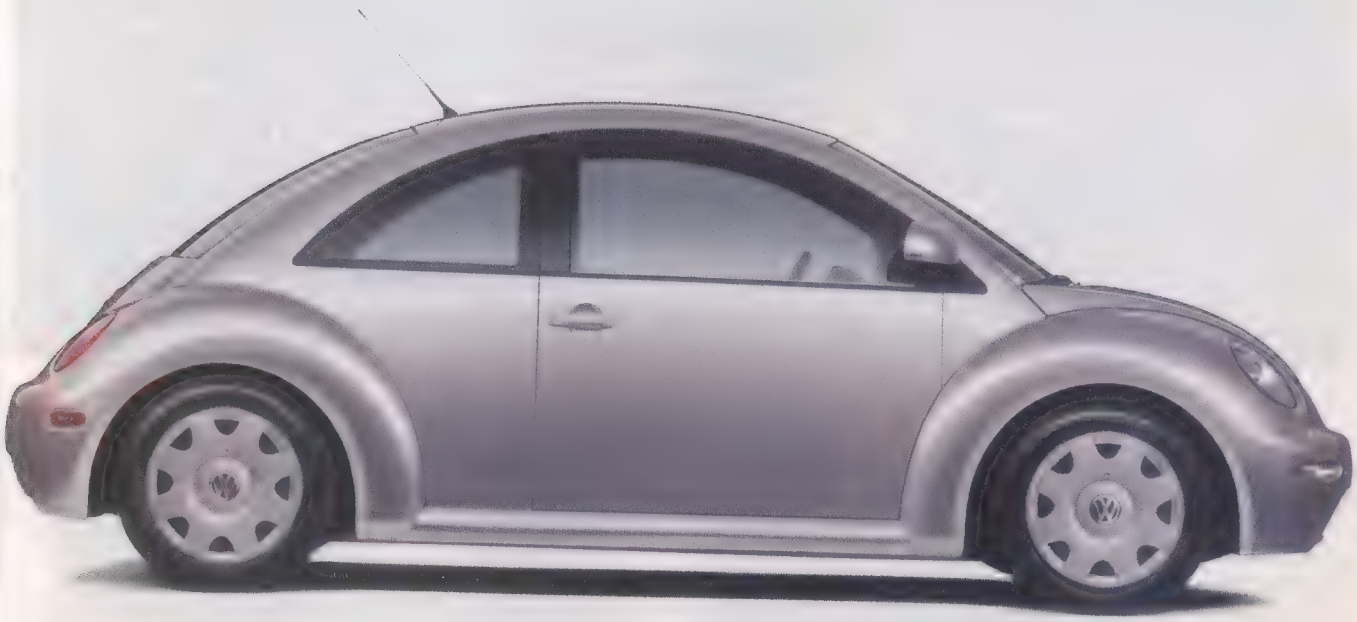

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Top Photo Printers

(continued from page 246)

PRODUCT*	Price**	Resolution	Type	Cost Per Page	Bundled Software	Pros	Cons	Verdict
Argus PhotoByte (888) 552-7487 *InfoLink No. 651*	**$399**	1,200 by 1,200 dpi	Dye sub/ photo only	$0.80	Corel Photo-Paint 5, and Professional Photos	Fast; small size; well-rounded software bundle.	Prints 4-by-7.7 photos only; too much yellow; no paper tray.	☆☆☆ **A solid bet for small-size output.**
Casio DP-8000 Digital Photo Printer (800) 836-8580 *InfoLink No. 652*	**$399**	297 by 446 dpi	Dye sub/ photo only	$1.00	None	Hooks directly to a digital camera.	Prints 4-by-6 photos only; must manually feed paper; no software.	☆☆☆ **Perfect partner for your Casio camera.**
Okidata Okijet 2500 (800) 654-3282 *InfoLink No. 653*	**$199**	600 dpi	Ink jet/ photo and text	$0.12	Broderbund Print Shop	Easy setup; separate ink cartridges save you money.	Middling image quality.	☆☆☆ **Good budget choice.**
Epson Stylus Photo 700 (800) 463-7766	**$249**	1,440 by 720 dpi	Ink jet/ photo and text	$0.12	Adobe PhotoDeluxe, Extensis Portfolio, Kodak Picture Network	Fastest of the bunch; low price; excellent software bundle.	Images suffer from banding and faded colors.	☆☆ **You can do better for the money.**
Epson Stylus Photo EX (800) 463-7766	**$499**	1,440 by 720 dpi	Ink jet/ photo and text	$0.12	Adobe Photoshop, Extensis Portfolio, Kodak Picture Network, Spin Panorama	Fast; great software bundle.	Takes over your desk; colors lack vibrancy.	☆☆ **Too much money for too little photo quality.**
Xerox DocuPrint XJ6C (800) 832-6979 *InfoLink No. 654*	**$149**	1,200 by 600 dpi	Ink jet/ photo and text	$0.11	ArcSoft PhotoStudio, PhotoPrinter, Photo-Fantasy, and PhotoBase	Quick-and-easy setup; separate cartridges reduce ink waste; amazing price.	Slow; washed-out colors; visible dot patterns.	☆☆ **For those with the tightest budgets.**

*FOR MORE INFORMATION, GO TO WWW.PCCOMPUTING.COM/INFOLINK. **ESTIMATED STREET PRICE.

RATINGS: ☆☆☆☆☆ EXCELLENT ☆☆☆☆ GOOD ☆☆☆ ACCEPTABLE ☆☆ POOR ☆ UNACCEPTABLE

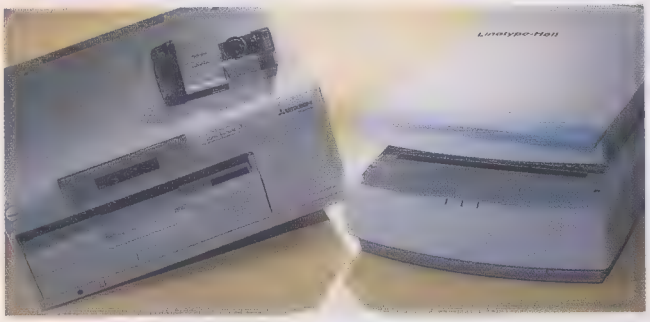
USABILITY CLOSE-UP Photo Printers

Home Accessory **The compact Casio DP-8000 sports a sleek black design that would fit nicely in your living room nestled among your stereo components.**

Cost Cutter **Why ditch all your ink when only one color runs dry? The Okidata Okijet 2500 lets you replace just the color you need, saving you money in the long run.**

Instant Solutions

You've seen the best of the digital cameras, scanners, and photo printers. Now it's time to make them work for you. Whether your pictures are going on the Web or in a brochure, here's how to put these products together to give you the best possible results.

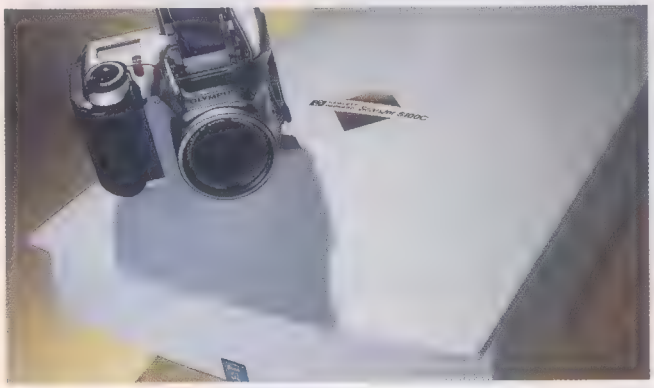


Shutterbug

You're not a card-carrying member of the paparazzi, but digital images are key to your business. For all the professional features and high quality of a 35mm camera, you can't beat **Nikon's Coolpix 900** digital camera. If you're working with negatives and slides, **Heidelberg's Saphir** scanner (right) has a built-in transparency adapter. And for prints that look like they came straight out of a commercial darkroom, there's **Mitsubishi's CP2000DU.**

Publisher

Your pictures can't look good just onscreen, they must also look fabulous when printed. **Kodak's DC260** is the best digital camera for sharp megapixel resolution. And for true, rich color scans with no loss of picture quality, plus high-end software for maximum control, choose the **Epson Expression 636 Artist 2** (left). To make your creations look their best in printed form, go with **Lexmark's 5700 Color Jetprinter** for proofing.



Webmaster

The Web's a competitive place, and it's your job to create a Web site that stops traffic. **Hewlett-Packard's ScanJet 5100C** makes it all the easier. When setting up scans, just select the I'm Scanning for the Web option, and it determines the right resolution. For quick-loading images, it's important to keep file sizes small. The **Olympus America D-500L** keeps the resolution in check but still gives glorious photos.

Paperless Office

Desperately need to get organized? **Visioneer's PaperPort One Touch** (right) makes it simple for even the biggest packrat to live a paper-free existence. Its buttons for scanning, copying, and faxing, plus its excellent software for filing, annotating, archiving, OCR, and e-mail, make the task effortless. And whether you like it or not, there will be times when you'll need to create a paper trail. **Canon's BJC-7004** is perfect for printing your images and text documents.

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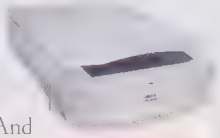
Little-league baseball cards. Personal Web sites. Emails with photos. Just a few of the things you can do with a UMAX scanner.

ASTRA 1220 SERIES. Make it into the big leagues for under $200.

The process is simple: scan your photo with a UMAX Astra 1220 scanner, add your favorite artwork, and print. Suddenly, the scouts are calling. And you've never looked better. That's because Astra 1220 scanners boast true 600 x 1200 dpi optical resolution and 36-bit color quality. Which means you'll see things other scanners can't show. Like the exquisite shades of pine tar on your bat. Every colorful stitch on your team jersey. Heck, you'll even see the hotdog guy in the background. And since Astra 1220 scanners cost under $200, they win M.V.P. honors for quality and value. Our scanner line-up supports both PC and Mac platforms, and with Parallel, SCSI, or USB interfaces, there's a model that's compatible with your computer. They also come with easy to use imaging software, including Adobe PhotoDeluxe.™ So, if you're ready to be famous, pick up an Astra 1220 scanner at your nearest computer retail store. Or for more information, check out www.umax.com/ball or call 1.888.358.UMAX. After all, your career may depend on it.



UMAX ASTRA 1220

COMPARISON	Astra 1220	HP 6200C
Optical Resolution	600x1200 dpi	600 dpi
Color Quality	36-bit	36-bit
Price	$129–$179	$399

*According to InfoTrends, IDC and PCData, 1998. ©1998 UMAX Technologies, Inc. All rights reserved. UMAX is a registered trademark of UMAX Technologies, Inc. All other brands and product names are trademarks or registered trademarks of their respective companies.
Prices listed are estimated street price and may be subject to change.

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UMAX

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1ST ANNUAL DIGITAL PHOTO CONTEST

How do you use your digital camera? Have you created a catalog on your Web site? Jazzed up your sales presentations with product photos? Profiled company stars in your newsletter? Or just taken some cool candid shots? Show us how you've solved business problems with your digital camera. Our panel of professional photographers and *PC Computing* editors will judge entries based on image quality, creativity, and how effectively they express the purpose of their category. Winners gallery will appear in *PC Computing* and at Seybold Seminars Boston/Publishing '99.

HOW TO ENTER: Visit www.pccomputing.com/photocontest for complete rules. Fill out the online form with a 50-word description of why your entry deserves to win, attaching a 1MB-or-less file of the digital image in JPEG format. One entry per category per person. Submissions must be received by **December 20, 1998.**

PRESENTED BY:

UMAX

HEWLETT PACKARD

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CATEGORIES

E-COMMERCE/E-BUSINESS

Best use of digital photography in selling goods or services over the Web.

WINNER PRIZE Umax Astra 1220U, MGI PhotoSuite II, ATI All-In-Wonder Pro, Olympus D-600L, Lexar SmartMedia Digital Film Starter Kit, $100 coupon for DVD Express from Pandesic.

BUSINESS PRESENTATION

Best use of digital photography in a live or Web-based presentation.

WINNER PRIZE Umax Astra 1220U, Hewlett-Packard PhotoSmart Printer, MGI PhotoSuite II, ATI All-In-Wonder Pro, Olympus D-600L, Lexar SmartMedia Digital Film Pack, $100 coupon for DVD Express from Pandesic.

PRINT PUBLICATION

Best use of digital photography in a newsletter, magazine, book, brochure, or other printed matter.

WINNER PRIZE Umax Astra 1220U, Hewlett-Packard PhotoSmart Printer, MGI PhotoSuite II, ATI All-In-Wonder Pro, Olympus D-600L, Lexar CompactFlash Digital Film Pack, $100 coupon for DVD Express from Pandesic.

CREATIVE EXPRESSION

Best use of digital photography in a noncommercial, artistic application—be imaginative!

WINNER PRIZE Umax Astra 1220U, Hewlett-Packard DeskJet 722c, MGI PhotoSuite II, ATI All-In-Wonder Pro, Olympus D-600L, Lexar SmartMedia Digital Film Reader, $100 coupon for DVD Express from Pandesic.

TRAVEL

Best use of digital photography to capture images from a business or leisure trip.

WINNER PRIZE Umax Astra 1220U, Hewlett-Packard DeskJet 722c, MGI PhotoSuite II, ATI All-In-Wonder Pro, Olympus D-600L, Lexar CompactFlash Digital Film Reader, $100 coupon for DVD Express from Pandesic.

GRAND PRIZE

Best overall use of digital photography in one of the preceding five categories.

WINNER PRIZE Umax Astra 1220U, Hewlett-Packard PhotoSmart System, MGI PhotoSuite II, ATI All-In-Wonder Pro, Olympus D-600L, Lexar CompactFlash Starter Kit, $100 coupon for DVD Express from Pandesic.

RUNNER-UP PRIZE Hewlett-Packard ScanJet 5100

To submit your entry go to www.pccomputing.com/photocontest. All entries must be submitted by December 20, 1998. Open to U.S. residents only. Complete rules are available at www.pccomputing.com/photocontest or by sending a self-addressed stamped envelope to: PC Computing Digital Photo Contest, 50 Beale Street, 13th Floor, San Francisco, CA 94105. Void where prohibited or restricted by law.

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VOL. T SEC. 02
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HELP FOR THE MOBILE WORKAHOLIC

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Pediatrician
System: Micron TransPort TREK
Favorite Feature: Brilliant Display
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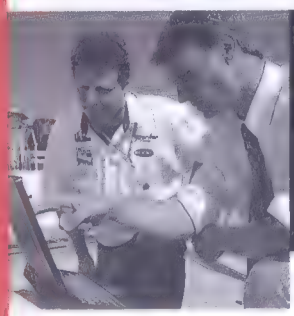

BOB PARKER

Owner/Founder Parker Motor Sports
Dominant Indy Race Car Team
Systems: Micron TransPort TREK Notebooks/
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Favorite Feature: Speed — Of Course!
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"The TransPort TREK is the Fastest Budget Notebook We've Run Through Our Mill."
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TREK²

New! 300MHz
14.1" XGA TFT display
64MB SDRAM
3.2GB hard drive (removable)

PENTIUM® II PROCESSOR POWER, AGP GRAPHICS AND A 14.1" DISPLAY AT BREAKTHROUGH PRICING

Experts and industry pundits all agree that Micron makes some of the world's best notebooks. Our product lines have won the coveted *PC Magazine* Editors' Choice award along with a myriad of other prestigious awards. And the new TransPort® TREK™ is no exception. *PC World* ranked the new TransPort TREK the #1 budget notebook available today††. And with a Pentium II processor 300MHz, AGP graphics and a gigantic 14.1" display, the TransPort TREK² is one of the best desktop replacements you can buy. Call Micron today and get a TransPort TREK² custom configured to your specific needs direct from the factory at unbelievably low prices.

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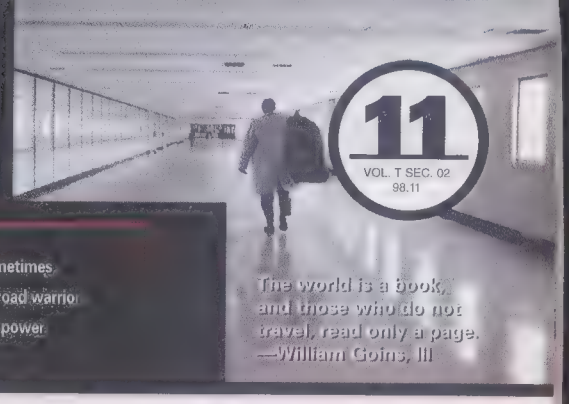

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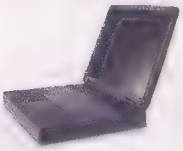
—William Goins, III



Now Featuring Brilliant 14.1" Display!

Model Name	TREK² 233	TREK² 233	TREK² 266	New! TREK² 300
Processor	Intel® Pentium® II processor 233MHz	Intel Pentium II processor 233MHz	Intel Pentium II processor 266MHz	Intel Pentium II processor 300MHz
Cache	512KB L2 pipeline burst cache	512KB L2 pipeline burst cache	512KB L2 pipeline burst cache	512KB L2 pipeline burst cache
RAM	32MB SDRAM	64MB SDRAM	64MB SDRAM	64MB SDRAM
Hard Drive	3.2GB hard drive	3.2GB hard drive (removable)	3.2GB hard drive (removable)	3.2GB hard drive (removable)
Monitor	12.1" SVGA TFT display	14.1" XGA TFT display	14.1" XGA TFT display	14.1" XGA TFT display
Extra Storage	3.5" floppy disk drive	3.5" floppy disk drive (dedicated bay)	3.5" floppy disk drive (dedicated bay)	3.5" floppy disk drive (dedicated bay)
CD-ROM	24X CD-ROM drive	24X CD-ROM drive (dedicated bay)	24X CD-ROM drive (dedicated bay)	24X CD-ROM drive (dedicated bay)
Graphics	4MB AGP graphics accelerator	4MB AGP graphics accelerator	4MB AGP graphics accelerator	4MB AGP graphics accelerator
Sound System	Built-in stereo speakers & microphone	Built-in stereo speakers & microphone	Built-in stereo speakers & microphone	Built-in stereo speakers & microphone
Warranty	5-year/1-year Micron limited warranty	5-year/1-year Micron limited warranty	5-year/1-year Micron limited warranty	5-year/1-year Micron limited warranty
Software Included	Microsoft® Windows® 98 System Wizard Mobile Client™ Norton AntiVirus	Microsoft Windows 98 Microsoft Office Small Business Edition System Wizard Mobile Client™ Norton AntiVirus	Microsoft Windows 98 Microsoft Office Small Business Edition System Wizard Mobile Client™ Norton AntiVirus	Microsoft Windows 98 Microsoft Office Small Business Edition System Wizard Mobile Client™ Norton AntiVirus
Also Includes:	Zoomed Video capable Li-Ion battery (dedicated bay) Microphone, stereo line-in/out jacks Touchpad pointing device CardBus ready S-Video & NTSC out; MPEG compatible Wavetable/3D Positional Sound 2-way fast infrared port 2 Type II/1 Type III PCMCIA slots 2-USB, parallel, serial, VGA, PS/2 ports	Zoomed Video capable Li-Ion battery (dedicated bay) Microphone, stereo line-in/out jacks Touchpad pointing device CardBus ready S-Video & NTSC out; MPEG compatible Wavetable/3D Positional Sound 2-way fast infrared port 2 Type II/1 Type III PCMCIA slots 2-USB, parallel, serial, VGA, PS/2 ports	Zoomed Video capable Li-Ion battery (dedicated bay) Microphone, stereo line-in/out jacks Touchpad pointing device CardBus ready S-Video & NTSC out; MPEG compatible Wavetable/3D Positional Sound 2-way fast infrared port 2 Type II/1 Type III PCMCIA slots 2-USB, parallel, serial, VGA, PS/2 ports	Zoomed Video capable Li-Ion battery (dedicated bay) Microphone, stereo line-in/out jacks Touchpad pointing device CardBus ready S-Video & NTSC out; MPEG compatible Wavetable/3D Positional Sound 2-way fast infrared port 2 Type II/1 Type III PCMCIA slots 2-USB, parallel, serial, VGA, PS/2 ports
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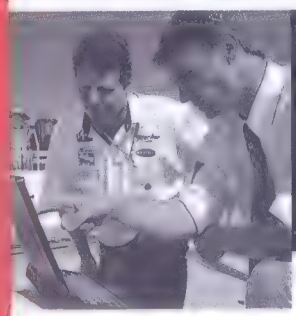
TREK 2

AMY ALCORN, MD

Pediatrician
System: Micron TransPort TREK
Favorite Feature: Brilliant Display
Purpose: Online Medical Research
For The Whole Story: www.micronpc.com



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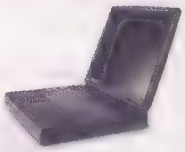

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Faster...Faster...Faster...

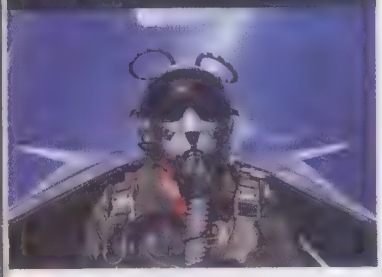
1 Clocked at speeds over 60mph, the cheetah is the fastest land animal. This "big cat" hunts mainly gazelle, but the average chase lasts only about 20 seconds.

2 In early October 1998, *PC World* Magazine ranks the Micron Millennia the #1 Power Desktop on the market calling it "the fastest of all" systems tested.

INTRODUCING THE NEW FULLY LOADED 450MHz MICRON MILLENNIA

MICRON GOES TO WORK

Raytheon Data Systems
Defense Contractor



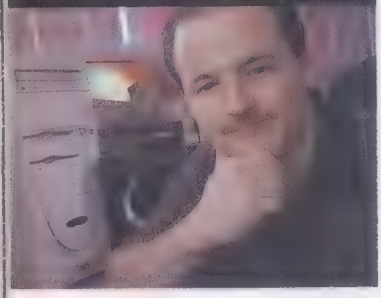
Micron Systems:
Over 100,000 deployed Micron desktops, notebooks & servers

Favorite Feature:
Price/power ratio

Purpose:
Help maintain US security and freedom

For The Whole Story: www.micronpc.com

Tim Willits
Lead Map Designer, id Software
Creators of Quake & Quake II



Micron Systems:
Micron Millennia 400 desktops

Favorite Feature:
400MHz - Of course

Purpose:
Test mind-bending levels of Quake II and help create one of the coolest games ever

For The Whole Story:
www.micronpc.com

Featuring Intel's Fastest Processor Ever

Just named #1 450MHz desktop by the editors of *CNET* and #1 Power Desktop by the editors of *PC World* Magazine (Millennia 400 DVD • October '98), Micron's Millennia desktop product line continues a long tradition of industry-leading, award-winning performance. Perhaps that's why some of the most prominent power users around rely on Micron. No matter how strenuous your demands, no matter how colossal the task, we invite you to put a Millennia® desktop to the test. You'll be hard-pressed to find a Pentium® II processor based system as powerful and affordable as the Micron™ Millennia. And Micron's revolutionary new MPower℠ purchase program makes Millennia ownership even easier, offering qualified users no interest or payments for six months as well as PowerXchange℠ trade-in options on your current PC towards a new Millennia desktop.**

MICRON'S EXCLUSIVE CONSUMER 6 NO PAYMENTS NO INTEREST 6 MONTH SAME AS CASH OFFER

PCWEEK READERS RANK MICRON #1 IN DESKTOP CUSTOMER SATISFACTION‡‡

PC WORLD — Millennia 350 Oct '98 Sept '98

PC WORLD — Millennia 400 Oct '98 Sept '98

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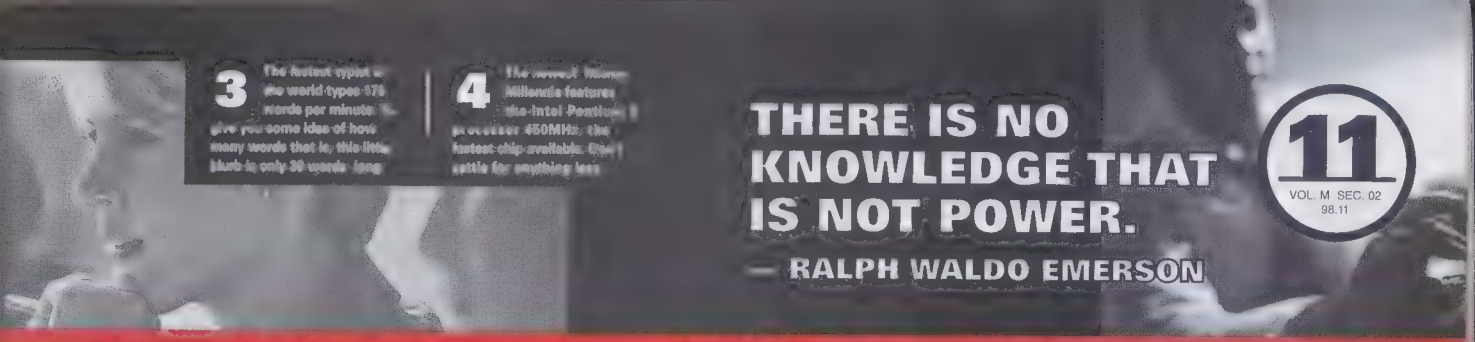

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Processor	Intel® Celeron™ processor 300MHz	Intel Pentium® II processor 350MHz	Intel Pentium II processor 400MHz	Intel Pentium II processor 450MHz	Intel Pentium II processor 450MHz
Cache	128KB internal L2 cache	512KB internal L2 cache	512KB internal L2 cache	512KB internal L2 cache	512KB internal L2 cache
RAM	32MB SDRAM	64MB 100MHz SDRAM	64MB 100MHz SDRAM	64MB 100MHz SDRAM	128MB 100MHz SDRAM
Hard Drive	4.3GB Ultra ATA hard drive	10GB Ultra ATA hard drive	10GB Ultra ATA hard drive	10GB Ultra ATA hard drive	14.4GB 7200 RPM Ultra ATA hard drive
Monitor	15" Micron 500Vx monitor (13.8" display)	17" Micron 700Vx monitor (15.9" display)	17" Micron 700Vx monitor (15.9" display)	17" Micron 700Vx monitor (15.9" display)	19" Micron 900Lx monitor (18" display)
DVD/CD-ROM	32X max speed CD-ROM drive	32X max speed CD-ROM drive	32X max speed CD-ROM drive	32X max speed CD-ROM drive	DVD-ROM drive and decoder card***
Modem	3Com/U.S. Robotics 56K WinModem**	3Com/U.S. Robotics 56K WinModem**	3Com/U.S. Robotics 56K WinModem**	3Com/U.S. Robotics 56K WinModem**	3Com/U.S. Robotics 56K WinModem**
Graphics	nVidia Riva 128, 4MB SGRAM 3D AGP graphics	nVidia Riva 128, 8MB SGRAM 3D AGP graphics	nVidia Riva 128, 8MB SGRAM 3D AGP graphics	nVidia Riva 128, 8MB SGRAM 3D AGP graphics	Real 3D Starfighter i740, 8MB AGP graphics
Sound System	PCI 64-voice Wavetable sound	PCI 64-voice Wavetable sound	PCI 64-voice Wavetable sound	PCI 64-voice Wavetable sound	PCI 64-voice Wavetable sound
Warranty	5-year/3-year Micron Power℠ limited warranty	5-year/3-year Micron Power limited warranty	5-year/3-year Micron Power limited warranty	5-year/3-year Micron Power limited warranty	5-year/3-year Micron Power limited warranty
Software Included	Microsoft® Windows® 98 Microsoft Home Essentials Microsoft Power Pak Norton AntiVirus	Microsoft Windows 98 Microsoft Office 97 Small Business Edition Norton AntiVirus	Microsoft Windows 98 Microsoft Office 97 Small Business Edition Norton AntiVirus	Microsoft Windows 98 Microsoft Office 97 Small Business Edition Norton AntiVirus	Microsoft Windows 98 Microsoft Office 97 Small Business Edition Norton AntiVirus
Also Includes:	New MicroTower™ case Advent AV009 stereo speakers 104-key enhanced keyboard Microsoft IntelliMouse® 3.5" floppy drive	New MicroTower case Advent AV009 stereo speakers 104-key enhanced keyboard Microsoft IntelliMouse 3.5" floppy drive	New MicroTower case Advent AV009 stereo speakers 104-key enhanced keyboard Microsoft IntelliMouse 3.5" floppy drive	New MicroTower case Advent AV009 stereo speakers 104-key enhanced keyboard Microsoft IntelliMouse 3.5" floppy drive	Micron MiniTower case Monsoon MM1000 flat panel speakers 100MB Iomega Zip Drive 104-key enhanced keyboard Microsoft IntelliMouse 3.5" floppy drive
Price	$1,199 $42/mo. TechRefresh Bus. Lease, 36 mos.**	$1,649 $58/mo. TechRefresh Bus. Lease, 36 mos.**	$1,749 $61/mo. TechRefresh Bus. Lease, 36 mos.**	$1,799 New Low Price! $63/mo. TechRefresh Bus. Lease, 36 mos.**	$2,899 New Low Price! $101/mo. TechRefresh Bus. Lease, 36 mos.**
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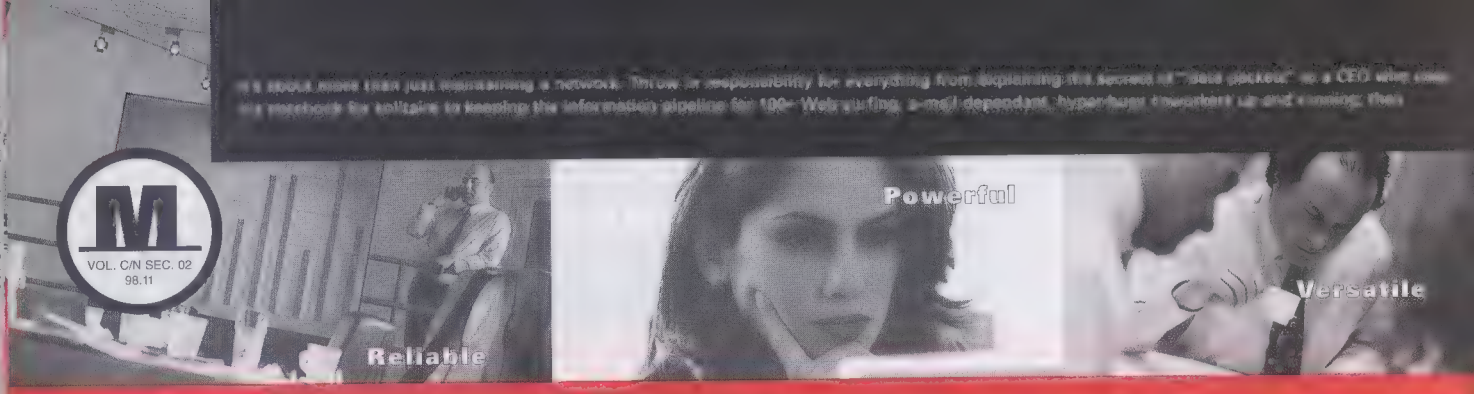

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Since 1985 Micron's line of NetFRAME servers has been providing rock-solid, tireless service, becoming one of the most highly regarded brands on the server market today. Combining advanced technology, superlative engineering and industry-leading service and support, Micron's award-winning line of NetFRAME servers continues to push the price/performance envelope and exceed user expectation.

Introducing the New Micron NetFRAME 6200

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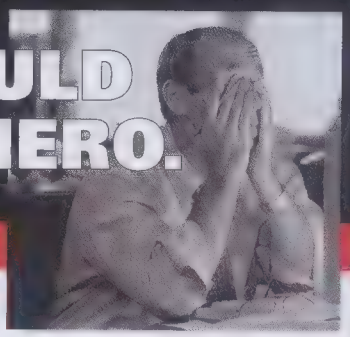
TechRefresh lease prices are based on a 36-month lease and are available to business customers. Businesses can qualify for 60-day same-as-cash and individuals for 6-month same-as-cash programs. If not paid in full by end of period, finance charges will be assessed from purchase date. APR varies and is 17.65% as of 8/25/98 with a minimum finance charge of $1.00. Term financing is available to individuals for home or business use. PowerXchange accepts trade in of most major computer brands. Please call for details and the latest qualified brand list. Cash rebates are based on the average wholesale value of your PC per the Orion Blue Book or other source chosen by Micron, adjusted for condition at trade-in.

you're starting to scratch the surface. Let's face it, when you're crawling around under someone's desk in a jungle of twisted cables because they want to see the dancing baby and you're the only one in the office that understands that "hot-swappable hard drives" aren't something dirty, the last thing you need is a server that's anything but flawless.

THEY SHOULD CALL ME HERO.



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WINDOWS NT FACT: Micron Was The First PC Company To Ship Windows NT In The Summer Of '94

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ClientPro CE 300

Intel® Celeron™ processor 300MHz
128KB internal L2 cache
64MB SDRAM
4.3GB Ultra ATA hard drive
17" Micron 700Vx (15.9" display)
32X max speed CD-ROM drive
nVidia Riva 128, 4MB SGRAM 3D AGP graphics
64-voice PCI Wavetable sound
3Com 3C905 WOL 10/100 network card
5-year/3-year Micron Power® limited warranty

Intel LANDesk® Client Manager available
Microsoft® Windows NT® Workstation 4.0*
Norton AntiVirus

SMART II hard drive monitoring
Chassis intrusion detection
Fan, temperature, and voltage problem reporting
Virus detection reporting
Remote Wake Up capability
New MicroTower case
3.5" floppy drive
104-key enhanced keyboard
Microsoft IntelliMouse®

$1,499 $53/mo. TechRefresh Bus. Lease, 36 mos.[10]

New!

ClientPro CS 450

Intel Pentium II processor 450MHz
512KB internal L2 secondary cache
128MB SDRAM
6.4GB Ultra ATA hard drive
17" Micron 700Vx (15.9" display)
32X max speed CD-ROM drive
Diamond Viper 330 nVida, 4MB AGP video
64-voice PCI Wavetable sound
3Com 3C905 WOL 10/100 network card
5-year/3-year Micron Power limited warranty

Intel LANDesk Client Manager available
Microsoft Windows NT Workstation 4.0*
Norton AntiVirus

SMART II hard drive monitoring
Chassis intrusion detection
Fan, temperature, and voltage problem reporting
Virus detection reporting
Remote Wake Up capability
MiniTower case
3.5" floppy drive
104-key enhanced keyboard
Microsoft IntelliMouse

$2,099 $73/mo. TechRefresh Bus. Lease, 36 mos.[10]

New!

NetFRAME 2101

Intel Pentium II processor 333MHz
512KB internal L2 ECC cache
64MB ECC SDRAM
4GB Ultra Wide SCSI-3 hard drive
32X max speed CD-ROM drive
5-year/3-year Micron Power limited warranty
Dedicated server technical support, 7x24
1-year next-business-day on-site service[11]

Intel LANDesk Server Manager
Emergency Management Port Console

Supports up to two Intel Pentium II processors
Intel 440BX PCI chip set
100MHz front side bus & up to 1MB memory support
Integrated Symbios PCI Ultra Wide SCSI-3 dual channel controller
Integrated RAID upgrade option
Intel PRO/100+ Server Adapter
5 expansion slots: 3 PCI, 1 ISA, 1 shared PCI/ISA
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6 internal 1.0" hard drive bays (54GB max.)
Integrated SVGA graphics 2MB
Microsoft mouse, 104-key enhanced PS/2 keyboard
3.5" floppy drive

$1,999 $70/mo. TechRefresh Bus. Lease, 36 mos.[10]

New!

NetFRAME 6200

High-Powered Server For Fast-Growing Businesses

Intel Pentium II Xeon™ processor 400MHz
512KB integrated L2 ECC cache
128MB ECC EDO DRAM
9GB U2W LVDS SCA 1" hard drive
32X SCSI CD-ROM drive
5-year/3-year Micron Power limited warranty
Dedicated server technical support, 7x24
1-year next-business-day on-site service[11]
NOS support (3 first-year incident resolutions), 7x24

Intel LANDesk Server Manager 6.0
Emergency Management Port Console
Microsoft Windows NT Server 4.0 (10-user license)

Supports up to four Intel Pentium II Xeon processors
Optional 512KB or 1MB L2 cache CPUs
Intel 450NX PCI chip set
4GB ECC EDO support (16 DIMM sockets)
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Integrated Symbios U2W LVDS dual channel controller
Integrated Symbios narrow SCSI controller
Intel PRO/100+ Server Adapter with Adaptive Load Balancing and Adapter Fault Tolerance software
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3 external 5.25" media bays
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104-key enhanced PS/2 keyboard
Microsoft mouse
1 parallel, 2 serial ports
• Add 3Com Gigabit EtherLink Network Interface Card for $800*

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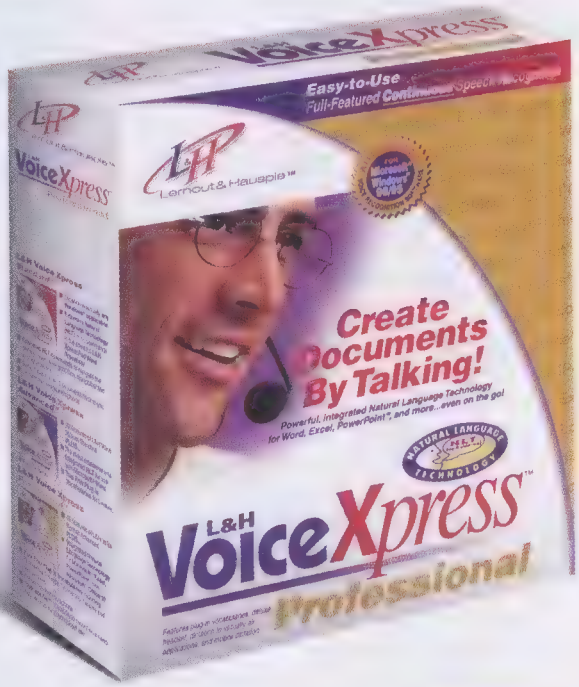

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SOHO

Win95, Win98, OR NT?

IS IT FINALLY TIME TO SWITCH? THE LOWDOWN ON WHICH IS BEST FOR HOME AND OFFICE. PLUS THE HIDDEN COST OF UPGRADING.

Does the prospect of switching operating systems strike terror into your heart? Would you rather be trapped in an elevator full of Jehovah's Witnesses and insurance agents than risk putting your PC out of commission if the upgrade goes wrong? We understand. Despite Microsoft's promises, upgrading system software is never quick, cheap, or painless. It's not just the cost of the software either—there's also the time it takes to set everything up and deal with the inevitable hardware hiccups. And even a minor upgrade can cut your productivity while you tinker with new features and unlearn old habits.

Eventually, though, we all have to upgrade. If you're running your home office or business on Windows 95, it's decision time. Since Windows 95's debut more than three years ago, a new generation of hardware has appeared, along with a class of applications built with the Internet in mind. Should you switch to Windows 98? Is it time to make the

BY ED BOTT

PHOTOGRAPHS BY WILLIAM BAILEY

This Is a Test **Is it worth it to upgrade Windows? To find out, we brought readers into our Labs to test Win98 and NT 4.0.**

leap to the more robust Windows NT 4.0? Or should you keep patching Windows 95 and make your decision next year, when Windows NT 5.0 arrives?

There are powerful reasons to switch to a new operating system, including faster performance, greater stability, and improved usability. But there are undeniable risks as well—time and money wasted—and there's no guarantee that you'll see a net increase in productivity.

Case for Upgrading What's your next operating system? For most of us, the shortlist of upgrade candidates fits on the back of a business card: Windows 98 or Windows NT 4.0, with the option of NT 5.0 sometime in 1999.

Windows 98 is the safer, cheaper solution. At a price of roughly $109, it rolls up three years' worth of Windows 95 bug fixes, tightly integrates Internet Explorer 4.0, and replaces the cumbersome Windows 95 setup routine with a smoother, more streamlined process. It also incorporates hundreds of new drivers and supports new USB devices.

Windows NT 4.0, on the other hand, forces would-be upgraders to deal with some hard questions. At $319, it costs nearly as much as some entry-level PCs. Although it shares the Windows 95 interface, it lacks many of the usability features of Windows 95, most notably support for Plug and Play. There's no upgrade path from Windows 95 either—to install NT 4.0 on a system running Windows 95 OEM Service Release 2 with the FAT32 disk format, you need to reformat and partition the disk from scratch, then install drivers for every piece of hardware on the system. NT 4.0 requires more system resources—memory, CPU, and disk space—than Windows 95 or 98; in return, you get a rock-solid system that runs virtually all your Windows 95 software and almost never crashes.

Next year's sweeping new version of Windows NT, now in beta testing, promises to address most of those concerns, with support for FAT32, Plug and Play, and a smooth upgrade path for Windows 95/98 users. Unfortunately, it won't be available until mid-1999 or later, and history suggests that it will take another six to nine months and a few service packs to work out all the bugs in this ambitious upgrade.

Measuring the Payoff You could toss a coin or consult your favorite psychic to decide when and how to upgrade. But we found a better way to measure the true costs of moving from one OS to another: Bring a group of experienced Windows users into the *PC Computing* Usability Labs and monitor them as they go through the process. We also timed testers to measure productivity, and calculated how long each OS upgrade would take to pay for itself.

Our tests included setting up the new OS and upgrading hardware, then working through a suite of tasks that simulate a typical working day. Each tester used an identical 333MHz Pentium II PC with 64MB of memory. All testers were businesspeople and advanced Windows 95 users; some had experience with NT as well.

If you're hesitant about switching to a new OS, our test results suggest you have good reason. Simply setting up a new OS can steal the better part of a workday, and even the best-case scenario promises only slight gains in productivity.

Somebody's Watching **Usability Labs technicians monitored testers' every move—as well as their every word—when they upgraded Windows.**

PHOTOGRAPHS BY ROBERT HOUSER

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Windows Setup

- **Windows 98's hands-off setup earned raves from our usability testers.**
- **By contrast, NT 4.0's daunting error messages and cryptic Control Panel sent blood pressures soaring.**
- **Plug and Play took the hassle out of hardware for Windows 98 upgraders, while NT forced testers to struggle with drivers and dialog boxes.**

It's somewhere on your to-do list near *Make dentist appointment* and *Clean out garage.* But is upgrading Windows really a hassle? We recruited businesspeople into the *PC Computing* Usability Labs—all experienced Windows users—to find out. We monitored their every move as they installed both Windows 98 and NT 4.0. We gave our usability testers identical test scripts for each operating system—and our lab technicians weren't allowed to give testers hints when they ran into snags. Instead they had to rely on online help, manuals, or tech support—as in the real world. Testers worked with each operating system in random order; some started with Windows 98 and some installed NT 4.0 first.

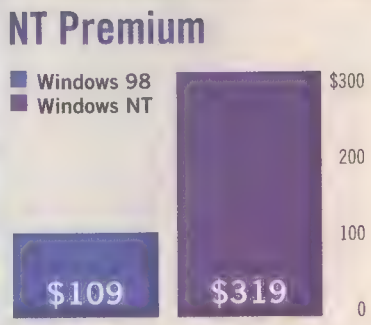
When the testers worked their way through our test scripts, we asked them what they thought: How easy or difficult was each operating system to install and set up? And we didn't let testers take any shortcuts along the way. Their list of required setup chores was daunting: After they installed the system software and any required device drivers, they had to configure an Internet connection and customize the desktop. For the hardware upgrade, we gave them a new network card and modem, with instructions to add drivers and configure both new peripherals. Finally, we asked them to install Office 97 and set up Dial-Up Networking.

As we expected, Windows 98 was easier to set up; its improved hands-off installation routine is at the top of its new feature list. In contrast, Windows NT 4.0 started with a couple of serious handicaps. We asked our testers to upgrade from a working Windows 95 PC formatted with FAT32; Windows NT 4.0 is incompatible with that disk format, so testers had to start by wiping the old OS and formatting the hard disk from scratch. Likewise, from hard-won experience, we suspected that testers would hit snags when they encountered NT's daunting network setup routine.

Finding the right device driver for each piece of hardware is crucial to a successful upgrade. On that score, Windows 98 has a dramatic edge. Since Windows 98 was brand-new when we ran our tests, its driver collection was complete and up to date. However, Windows NT 4.0 is more than two years old, so its driver library doesn't include support for many of the components in our test system.

No Sweat All our testers used the word *easy* to summarize their Windows 98 upgrade experience. The improved setup routine earned high marks, although one tester complained that the 25-character product key is "much too long and not easy to enter." Another tester, an accountant, was impressed that Windows 98 did so much of the work: "Only once did the machine prompt me for some mystery file that I found, by luck, in the Windows System folder."

PRICE WAR



Ka-ching! **Corporate customers can get NT at a huge discount, but individuals and small businesses pay dearly for the more advanced operating system.**

Our testers gave a thumbs-up to Microsoft's decision to keep the Windows 98 desktop environment nearly identical to that of Windows 95; they noted improvements in performance and general fit and finish for the upgrade. They also appreciated the update screens that provide informational feedback during the setup process. None of our testers needed to consult the online help to complete the initial setup.

Upgrading and configuring hardware was nearly painless with Windows 98. Testers praised its Plug and Play support, which successfully detected and configured almost every piece of hardware in our test system. The one Plug and Play failure was with the STB Velocity 128 video card; although the correct driver was on the Windows 98 disc, it took some digging to find it. One tester expressed frustration at the lack of readily available onscreen help when searching for the proper video driver. Another tester had some problems setting up a new network card.

Brute Force When testers described their NT upgrade experience, on the other hand, the word *difficult* popped up repeatedly. There's no upgrade path from Windows 95, so testers had to start by

Set Up and Go Testers zipped through Windows 98 installation effortlessly. But lab technicians noted testers' frustration with NT's setup.

formatting and partitioning the hard disk. In addition, every step of the complex upgrade required technical decisions that weren't obvious and many extra steps compared with the upgrade to Windows 98. And forget about consulting the manual: Some questions go unanswered while the text offers only spotty help in other areas. Testers fumed at the lack of feedback as they proceeded. Is the system working, or is it frozen? Who knows?

Setting up hardware caused the biggest hassles for our NT upgraders. After struggling through a lengthy setup, one tester, a lawyer, told us, "The hardest part was adding hardware. There's nothing like Windows 95's Add/Remove Hardware option in the Control Panel and no Device Manager. It was a bear." Another tester added, "I miss Plug and Play."

Installing network drivers was a nightmare, even for testers with network experience. The default setup installed the wrong driver, and replacing it with the right one was no fun. One tester, a college instructor who was setting up NT for the first time, complained about cryptic error messages and a lack of online help: "Each time I started up, NT notified me there was a problem, but it didn't tell me what the problem was."

SETUP TIME

Fast Starter (hours:minutes)

Quick from the Gate With Windows 98's hands-off setup, installing the new OS takes about as long as a leisurely lunch break.

Clear Choice

Based on our tests, every one of our testers would choose Windows 98 over NT 4.0. They rated it higher on the satisfaction meter as well. On a scale of 1 to 5, with 5 being best, they gave Windows 98 a solid 4.5, compared with a lukewarm 3.1 for Windows NT. It took 46 percent longer to complete all NT setup tasks than it did to run through the same set of tasks with Windows 98. That's a big edge.

Windows 98's Plug and Play support made the biggest difference. Our testers looked in vain for the NT equivalent of Windows 95's Device Manager; without easy access to device configuration tools and driver information, testers wasted time searching through the Control Panel. We don't measure blood pressure in the Usability Labs, but our technicians reported that all testers were visibly frustrated by NT's user-unfriendly environment.

On the whole, testers were effusive in their praise of Windows 98. One admitted that "overall, the upgrade was so simple and the interface so familiar that I'm not sure I feel like I've even upgraded to a new operating system." Another tester called it "an excellent operating system—well worth the upgrade." After finishing the Windows 98 test suite, the college instructor couldn't wait to get home and upgrade his own system: "I would recommend it to anyone."

Windows NT, however, earned only brickbats. One tester, an airline pilot, said, "We had system problems from the start, and things only got worse. If I had installed this to replace a small-office Windows 95 system I would have pulled my hair out." The lawyer's closing argument: "It's not worth the pain if you're an ordinary user."

Despite their frustrations with NT, all our testers were able to complete both upgrades. In fact, it's remarkable that our group was able to do as well as it did considering NT's demanding setup options. Our tests suggest that experience is a great teacher when it comes to setting up NT.

But using Windows for day-to-tasks—running multiple programs, browsing the Web, and working with common business apps—poses a new set of questions: Which Windows is faster? Easier to use? Least likely to crash? Read on.

Running Apps

- **Windows 98 was noticeably faster, giving it a slight productivity edge.**
- **NT 4.0's appetite for system resources like RAM made it slower and caused problems when testers tried to run multiple applications.**
- **If you're thinking of moving to NT, add extra RAM—and even a faster CPU—to your upgrade budget.**

Imagine your busiest workday, with a task list as long as your arm. Now crank up the pressure another notch and you can imagine what we asked our testers to accomplish after upgrading their operating system. We wanted to answer a few simple questions: Will an operating system upgrade improve productivity? Do changes in performance and system resource management let you get more work done?

Our suite of tasks emphasized multitasking with a full range of applications, including basic office productivity software, database management tools, an image editing application, and a Web browser. We asked our testers to launch all the applications, then run through a laundry list of common business tasks. For comparison, they did each task with Windows 95 as well as with Windows 98 and NT 4.0.

Not surprisingly, our testers found the interface for all three Windows versions refreshingly familiar, at least at first glance. That impression changed quickly when testers opened NT 4.0's default Web browser, Internet Explorer 2.0. As one tester put it, this version of Internet Explorer is "far inferior" to that available in Windows 95 or 98. What an understatement.

Thanks to common interface elements like the Start menu and Taskbar, our testers had no trouble opening applications and switching between open programs. We found performance differences between the operating systems, as well as crucial differences in their requirements for system resources. As it turned out, those had the greatest impact on productivity.

PERFORMANCE

NT Gets an Incomplete

*TESTERS WERE UNABLE TO COMPLETE MULTITASKING ROUTINE WITH NT.
NOTE: BASELINE IS WINDOWS 95 (=0).

Resource Hog **Windows NT 4.0 outpaces Windows 98 on business apps, but our testers lost time on the Web using NT and couldn't multitask as easily with it.**

Decisions, Decisions Windows 95 and 98 passed our multitasking tests with flying colors. All our testers found it easy to sail through our lengthy task list with both operating systems. After a day in the Usability Labs, the lawyer reported that "all applications opened and ran the same in Windows 98 as in Windows 95."

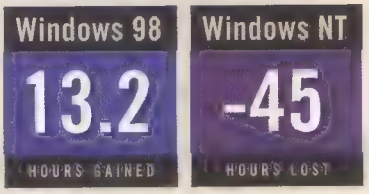
But most testers had trouble opening all the programs in the test suite when they switched to Windows NT. When they tried to launch Word after opening Adobe Photoshop, testers encountered a Windows error message complaining of insufficient system resources. The solution was to close Photoshop and then open Word, after which Photoshop would run properly. We attributed this problem to NT's increased demand for system resources.

Our testers had nothing but praise for the Windows 98 interface. One tester remarked, "It's an attractive interface and doesn't get in my way," while another called it "more pleasing to the eye" than Windows 95's interface. The college instructor gave Windows 98 especially high marks for its multitasking prowess: "This OS operates quickly and appears to be faster than Windows 95 in some tasks. I know I would be more productive using this system." Another tester lauded its ability to handle a heavy workload.

According to our testers, NT systems were noticeably slower when it came to multitasking. That criticism might seem surprising, given NT's reputation as a first-rate taskmaster, but we chalked the differences up to system resources. With a large number of open applications, NT was forced to swap programs and data to disk when switching between applications. We heard a steady drumbeat of complaints about NT's performance. A computer consultant called NT "more sluggish than Win95/98. It seems to need a 'zippier' system" (even though our test bed was a 333MHz Pentium II with 64MB of RAM).

PRODUCTIVITY

Penalty Box



Throttled Down **Switching to NT does wonders for your uptime, but over a year you'll pay in productivity compared with the zippier Windows 98.**

Productivity Boost? **Our usability tests and ROI analysis found that Windows 98 offers a slight productivity gain—while NT actually costs you man-hours.**

Productivity Puzzle How much faster can you get your work done with a new operating system? According to our tests, upgrading to Windows 98 lets you eke out a modest gain in productivity—a little over an hour each month, or roughly one and a half working days a year. That's a whole lot better than the 3.8 hours of productivity you'll surrender every month when you move up to NT 4.0 without also upgrading your PC.

Windows 98 upgraders will see small performance gains and smoother multitasking because the new operating system makes more efficient use of hardware than Windows 95 does. On the other hand, Windows NT's greater resource demands mean you have to run faster just to stay in the same place. If you're contemplating a move to NT 4.0, budget for some hardware upgrades too—extra RAM, certainly, and possibly a faster CPU.

When we tallied up testers' user-satisfaction scores, it was another clean sweep for Windows 98. Every tester completed the full suite of tasks for all three operating systems, but Windows 98 was the unanimous winner when we asked testers to name the operating system they preferred. Our testers responded well to the familiar interface as well as to the general perception that Windows 98 is faster than Windows 95 or NT. We heard a litany of complaints about NT's sluggishness, and despite the high satisfaction scores, our panel was clearly less impressed with Windows NT.

True Test Payback time is just as important as productivity gains to the small-business person or tight-fisted accounting department. However, if you're looking for instant return on your OS investment, you'll probably be disappointed. As far as daily tasks are concerned, Windows 98 pays for itself in 105 days. Windows NT 4.0, on the other hand, never fully returns your $319 investment.

And when you face the upgrade decision, remember that our productivity test results don't factor in setup time. Even with a smooth upgrade from Windows 95 to Windows 98, expect to sacrifice more than that hour you would have saved in the first month. And you'll quickly squander the remaining 12 hours over the course of a year just experimenting with new features and capabilities.

Finally, one factor we didn't measure was stability. In theory, at least, upgrading your system to Windows NT will help you avoid crashes and run more reliably. Subtract just one system crash every month or two and you'll save a significant amount of time and frustration each year. If you're concerned about losing mission-critical data, the increased peace of mind alone might be worth it. Because all three versions of Windows look and act so much alike, this might be the most important reason of all to consider an upgrade.

PAYBACK TIME

Win98 Earns Its Keep

NT's Hidden Cost **If productivity is your only benchmark, NT 4.0 can't pay its way, while Windows 98 justifies the upgrade cost in less than four months. Still, can you put a price on stability and security?**

Which Windows?

Our testing focused on usability—one important aspect of an OS upgrade. But there are other equally powerful factors you'll need to consider. Based on our experience with every 32-bit version of Windows (including beta copies of NT 5.0), here are our recommendations for different hardware setups and work environments.

Older systems whose users run no more than one or two apps. If Windows 95 is running well, stick with it. There's little payoff to upgrading to Windows 98 until you replace your desktop PC.

For older PCs, stick with Windows 95.

Maximum expandability. For the most comprehensive selection of add-ons and peripherals, it's no contest: Windows 98 supports USB and PCI devices better than any other Windows version, and it has the most extensive library of device drivers.

Windows 98 offers the best support for USB and PCI devices.

Corporate desktops running mission-critical applications. When you can't afford to lose data or suffer downtime, your choice is obvious: Get Windows NT 4.0, and make sure to apply the latest service pack (SP3) and any required hotfixes. Evaluate NT 5.0 when it's available in beta form next year, but don't upgrade until Microsoft has fixed the first wave of bugs with a service pack.

No version of Windows is truly crashproof, but NT 4.0 comes closest today.

Home or business desktops that demand maximum performance. A toss-up. If you're willing to throw enough hardware at it, you can make any version of Windows scream—even NT 4.0. But if your resources are limited, stick with Windows 98; its improved disk-handling and networking components make it the most efficient at managing system resources.

Limited hardware budget? Squeeze out maximum performance with Windows 98.

Systems that store sensitive data. For anyone who's concerned about security, NT 4.0 is the only version of Windows worth your time. Even an amateur hacker can break into a Windows 95/98 box and steal data or passwords. For maximum NT security, use the NTFS file system, and follow Microsoft's guidelines for strong passwords.

NT offers true security, but it takes an experienced administrator to configure it properly.

Windows NT 5.0 Update

Our usability testers dissed NT 4.0's user-hostile interface at every turn. Will Windows NT 5.0 fare better when it arrives next year? Even based on early beta versions, we're impressed with the sweeping usability improvements in the next NT. Although some new features are designed to make life easier for administrators of large networks, NT 5.0 will also make life easier for desktop users.

If you're upgrading from Windows 95 or 98, you'll be able to install NT 5.0 over your operating system, preserving preferences and settings. FAT32 support is an integral part of the upgrade so you won't have to hassle with file-system incompatibilities and disk partitioning either.

NT 5.0 won't handle hardware as effortlessly as Windows 95. But the new version will support most Plug and Play devices, with a Hardware Wizard that lets you add or reconfigure new peripherals. All hardware settings will be available from a Window 95–style Device Manager. Drivers should be easier to find too.

For a sneak preview of NT 5.0's new Installer, check out Microsoft Office 2000 (see October, page 88). The same technology is slated to appear in both products and eventually in third-party Windows applications. Instead of wasting disk space installing every feature of the new OS, NT 5.0 will install new features on demand, the first time you use them. Just remember to keep the CD close at hand.

GEAR UP FOR TOP PERFORMANCE

SYMANTEC.™

Norton SystemWorks™: The smartest way to keep your computer working

Whether you're an experienced PC user or new to the world of computing, you need utilities. Your computer needs constant maintenance — from optimizing your system to keeping your hard drive clean. It needs protection against viruses and infections. And ways to safely remove programs and files you no longer want, prevent crashes and resolve conflicts.

That's a lot of utilities. So many that they duplicate functions, sucking up system memory and precious space on your hard drive. Sometimes they even conflict with each other!

Of course, computers ought to function well these days. But since they sometimes don't, you need a single, comprehensive solution that will keep your computer working. A solution that's affordable. A solution that's easy to use.

That solution is Norton SystemWorks. Because it has the very best and most current version of everything you need, Norton SystemWorks is the smartest way to keep your computer working. And Norton SystemWorks is Windows 95 and Windows 98 compatible.

What makes Norton SystemWorks the best?

Norton Utilities™ – the #1 problem-solving software for over 15 years and the industry leader in detecting, repairing and preventing major and minor computer problems. Offering unrivaled power and control, it optimizes your computer to run at peak efficiency, detecting Windows problems in the background and solving them with intelligent repair capability.

Norton AntiVirus™ – the #1 anti-virus program in the U.S. and in the world, recommended by users more frequently than any other product of its kind. It updates itself automatically and works in the background to eliminate today's and tomorrow's viruses, no matter where they come from.

Norton Uninstall™ – the safest way to remove programs and files you no longer need. It automatically cleans up your hard drive every time you start your PC and it maintains your custom settings and preferences when you copy or move programs.

Norton CrashGuard™ – automatic protection against PC crashes and screen freezes

Five award-winning Norton products integrated to work as one.

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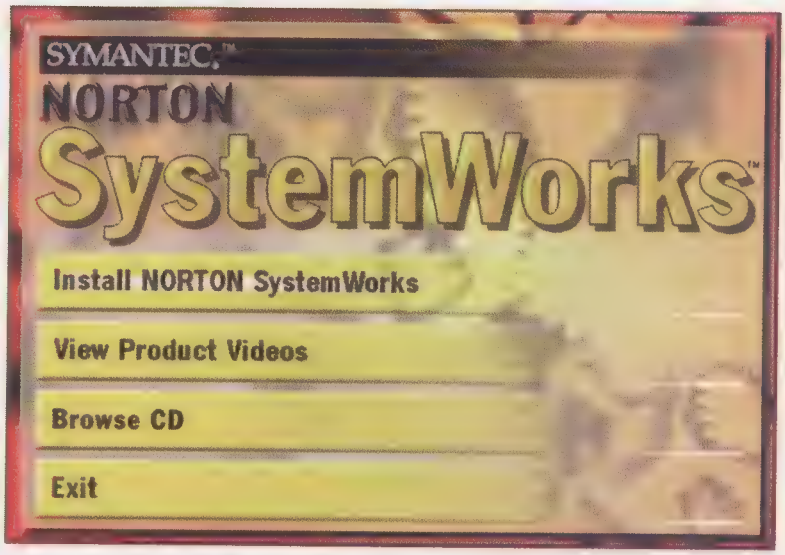
that's three times as effective as any other program. Using award-winning Norton technology to find and solve your disk problems, Norton SystemWorks includes software that detects and solves software problems behind the scenes without slowing you down.

Norton Web Services™ – a web service that locates and helps you install any hardware drivers and software updates specific to your system. It detects the software and hardware installed on your computer, then uses the power of the Internet to check your needs against Symantec's up-to-the-minute database containing thousands of patches, drivers and application add-ons.



Easy to install with the CD Start screen.

Norton SystemWorks is integrated

Only Norton SystemWorks offers you an award-winning, best-of-breed collection of utilities covering all the major utility categories — and you can click it all into action from a single, integrated Norton SystemWorks screen.

Just one purchase buys you all the functionality you need for system problem-solving and optimization, virus protection, maintenance and crash protection.

Because Norton SystemWorks is so tightly integrated, it's easy to install and easy to launch. All the utilities included in Norton SystemWorks are designed to work compatibly with each other and duplicate functionality has been eliminated. Moving from one utility to another — say, from Norton AntiVirus™ to Norton Uninstall™ — is as simple as clicking a button on your screen. What's more, Norton SystemWorks features like CD Start and Launch Pad make it exceptionally easy to use.

Norton SystemWorks runs the way you want it to

Whether you want it to work automatically in the background or you want to customize it to adapt to your level of expertise, Norton SystemWorks can accommodate your needs. Norton SystemWorks can be customized for the perfect fit between you and your computer.

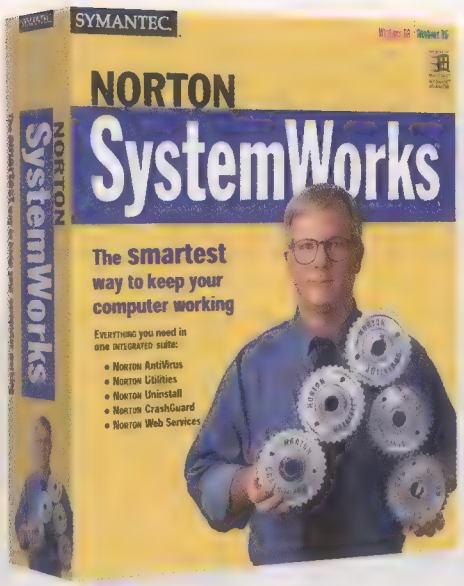
And if you're already using other Norton products, it's easy and affordable to move up to Norton SystemWorks.

Norton SystemWorks is an excellent value

Just one purchase buys you all the functionality you need for system problem-solving and optimization, virus protection, maintenance and crash protection.

Nothing beats Norton SystemWorks. It's a convenient, one-box solution with all of the most current and effective PC utilities.

Norton SystemWorks. The smartest way to keep your computer working.



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The smartest way to keep your computer working. Norton SystemWorks protects, maintains, fixes and fine-tunes your system. Easily customized, you can choose whether you want Norton SystemWorks to run automatically in the background, or personalize it to suit the way you prefer to manage and maintain your system.

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FastTrack Schedule

has long provided *powerful project planning* and monitoring capabilities, and this upgrade polishes those capabilities and adds real-time collaboration tools.

PC Magazine, [illegible]

The latest edition improves the ***ease-of-use and power*** *of existing functions like setting up schedules, allocating resources, calculating cash flow.*

Fortune, Technology Buyer's Guide, Winter 1998

...easy to learn and use, and offers considerable ***control*** over even the most complex undertakings.

PC Computing, May 1998

The program's **Strength** *lies in its flexible layout and presentation tools.*

Info World, April 6, 1998

. . . a good bet for companies that are looking for basic but ***easy-to-configure*** project scheduling.

PC Week, March 18, 1998

We couldn't have said it better ourselves.

The experts agree. FastTrack Schedule 5.02 is the right choice for easy project scheduling — enabling you to create presentation quality schedules quickly and easily. Here are some of the *NEW* features found in version 5.02:

- Real-Time Internet & Intranet Collaboration
- Visual Basic Automation
- Custom Calculation Fields
- Automated Legend Builder
- Column & Time Period Summaries
- Year 2000 Compliancy
- Export to HTML, GIF, TIFF or JPEG
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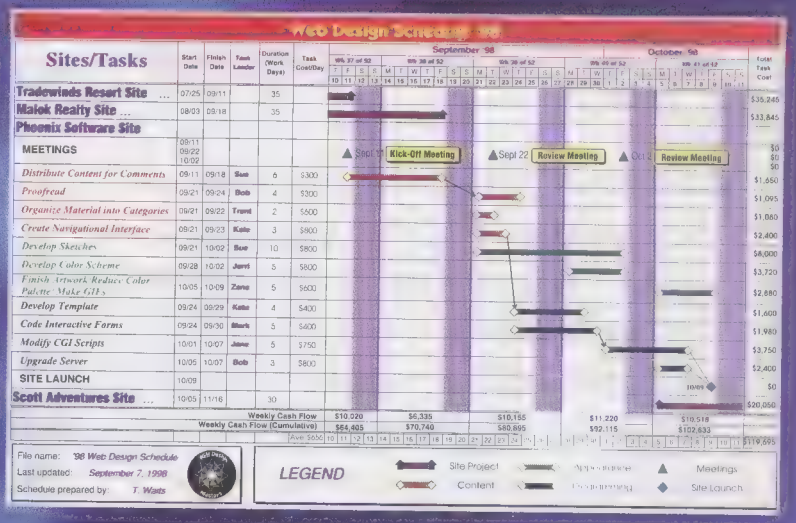
- And many more!



Why waste time struggling with complicated and costly project management programs? FastTrack Schedule 5.02 is easy-to-use, intuitive, and extremely flexible. It's available for Windows 3.1x, Windows NT 4.0, Windows 95, and Macintosh. And because it's also fully Windows 98 compatible, everyone in your office can stay on schedule today and into the 21st century. So whether you need to plan a day's worth of activities or a year's worth of projects, you'll stay on schedule and achieve project goals with FastTrack Schedule.

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Nix IE for Netscape

Just because Microsoft Internet Explorer is the default browser for Windows 98, you don't have to settle for it. There's no reason to give up Netscape Communicator if it's your browser of choice. Here's an undocumented way to nix IE for Communicator—or at least make the two coexist peacefully.

1. Install Netscape Communicator
Internet Explorer may already be installed on your machine, but that shouldn't keep you from using Netscape Communicator. In fact, you might want to keep both browsers handy. You'll find some Web sites work well with one browser but not the other.

Communicator 4.5 includes Navigator, the venerable browser; Messenger, an e-mail client; Calendar, a scheduler; Composer, an HTML editor; and a few extras. Download the installation file from www.netscape.com or buy the program on CD. Once you have Communicator, follow the instructions to install it. Surprisingly, Communicator doesn't change your default Windows browser settings during installation.

So can Navigator take the place of Internet Explorer in Windows 98? In most cases, yes. If you choose Navigator as your default browser, it loads when you click on an HTML file or a URL, or when you type a URL in Win98's Address toolbar, a File/Run dialog box, or the Windows Explorer Address bar. Navigator even takes over when you click on a hyperlink in a Microsoft application.

You can run Navigator as your browser under America Online—even though AOL itself uses Internet Explorer. It's easy: Start AOL and wait for the welcome screen or listen for the baritone voice that says, "Welcome." Then start Navigator. That's all it takes.

We found only three small corners of Windows 98 where you can't substitute Navigator. Windows 98 won't let it display Active Desktop wallpaper. It isn't used by Windows Explorer when you ask to view a folder as a Web Page. And (for reasons known only to the folks in Redmond) you can't use Navigator for the Windows Update service.

2. Control the IE-Navigator Tug-of-war The first time you start Navigator you'll see a message that asks if you want to register Netscape Navigator to handle Internet shortcuts. This means Navigator becomes your default browser and comes up when you double-click on an .htm file or type a URL into an appropriate location in Windows, such as the Taskbar.

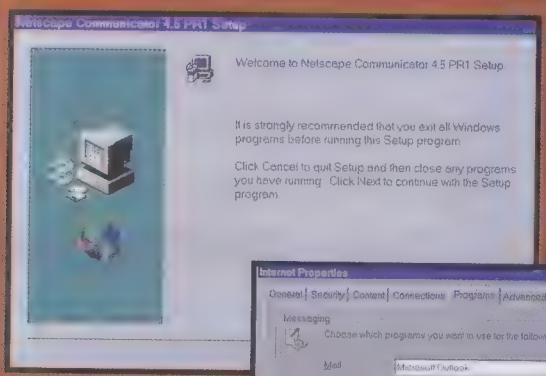
If you let Netscape take over as default browser, the next time you run Internet Explorer it too will ask if you want it to be the default. This high-tech tug-of-war gets really old, really fast.

At the heart of the struggle is a series of Registry entries (see "E-Z Registry: Browser Battle," page 286). Internet Explorer and Navigator each lay claim to the same entries. Fortunately, they work together well enough that you can pick one now and change your mind later.

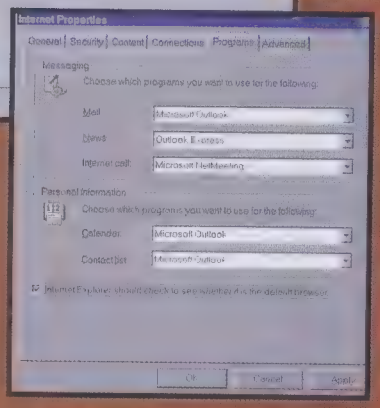
We found a dozen ways to force IE or Navigator to take over as your default browser. But we'll show you the easiest and most reliable method—one that neither Microsoft nor Netscape has documented.

3. Force IE to Check Whether It's the Default Before you change the default browser to Navigator, you need to

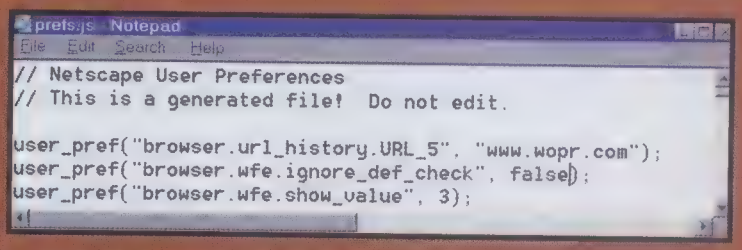
(continued on page 278)



1. Download Netscape Communicator from www.netscape.com or buy it on CD. Then install it on your Windows 98 system.



2. Have Internet Explorer see whether it's the default browser by selecting the option in the Control Panel's Internet applet.



3. Make Navigator check whether it's the default by editing the prefs.js file (ignore the warning not to edit it).

Nix IE for Netscape (continued from page 277)

know who's currently in charge. First tell Internet Explorer to check whether it's the default browser. Click on Start, Settings, Control Panel. Double-click on the Internet icon. Click on the Programs tab, then make sure the checkbox marked Internet Explorer Should Check to See Whether It Is the Default Browser is checked. Click on OK.

4. Force Navigator to Check Whether It's the Default
Similarly, you need to tell Navigator to look and see whether it's the default browser. If you've just installed Netscape Communicator and haven't yet run Navigator, you don't need to perform this little chore.

To make Navigator check, open the file called prefs.js in the folder c:\Program Files\Netscape\Users*userid*. For example, if your Netscape username is *Woody*, the file would be c:\Program Files\Netscape\Users\woody\prefs.js.

Use Notepad to open prefs.js. The second line of the file tells you not to edit it. Ignore this warning and find the line that says user_pref("browser.wfe.ignore_def_check", true). Change the *true* to *false* (see screen shot on page 277). If the value is already false, leave it alone. Exit Notepad and make sure you save the changes to prefs.js.

5. Make Navigator Your Default Browser Start Internet Explorer. If it asks whether you want to make it your default browser, uncheck the box that says Always Perform This Check When Starting Internet Explorer and click on Yes. Exit Internet Explorer. Then start Navigator. It too may ask if you want it to be your default browser. Make sure you *un*check the box that says Do Not Perform This Check in the Future and click on Yes. Exit Navigator.

Finally, start Internet Explorer again. If it asks you whether you want to make Internet Explorer the default, uncheck the Always Perform This Check When Starting Internet Explorer box, and this time click on No.

By following this rather odd series of steps, you not only ensure that Navigator takes control of all your Registry settings—you also ensure that Navigator will keep a close eye on those settings, rechecking every time you load it.

6. Make Internet Explorer Your Default Browser On the other hand, if you want to make Internet Explorer your default browser but keep Netscape Navigator on hand, take the opposite approach of what you did above.

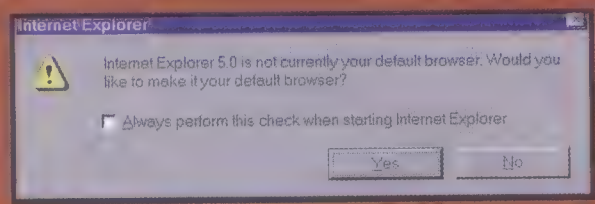
Start Navigator. If it asks whether you want to register Navigator as your default browser, check the box that says Do Not Perform This Check in the Future and click on Yes. Exit Navigator.

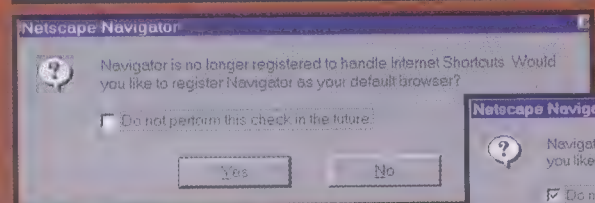
Start Internet Explorer. If it asks you the same question about IE, check the box labeled Always Perform This Check When Starting Internet Explorer and click on Yes. Exit Internet Explorer.

Start Navigator one last time. If the Do Not Perform This Check in the Future box appears, check it and click on No.

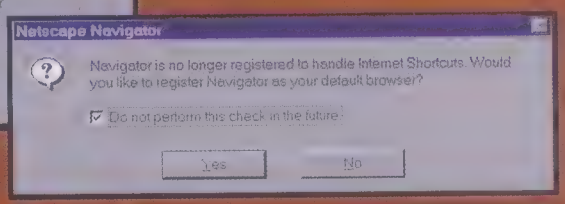
7. Change Your Mind
Now you're finished. Anytime you want to change your default browser, simply follow Steps 3 through 6 and pick the browser you prefer.

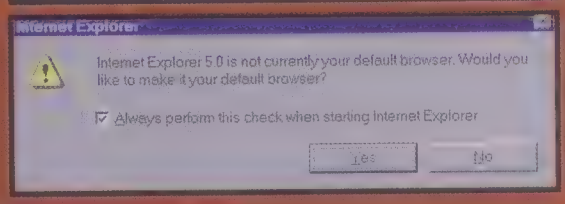
Contributing Editor Woody Leonhard has written more than a dozen books on Windows and Microsoft Office. Woody's Office Watch (WOW), his free weekly electronic newsletter, covers topics like the ones you see here. Subscribe to WOW by sending a blank message to wow@wopr.com.
Edited by Liesl La Grange Noble.



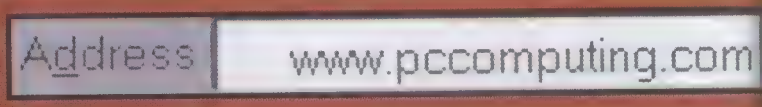


5. To make Navigator your default browser and have the Registry acknowledge it too, follow the instructions above in Step 5.





6. If you want IE to be your default browser, take the opposite approach to that with Netscape. Follow the instructions above in Step 6.



7. Now Navigator launches when you type a URL in the Windows 98 Taskbar's Address toolbar.

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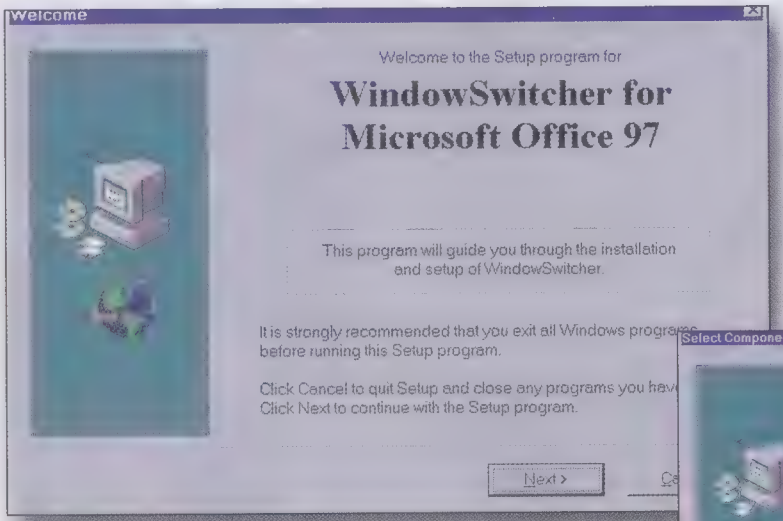
By Woody Leonhard

For more exclusive Windows downloads, head to www.pccomputing.com

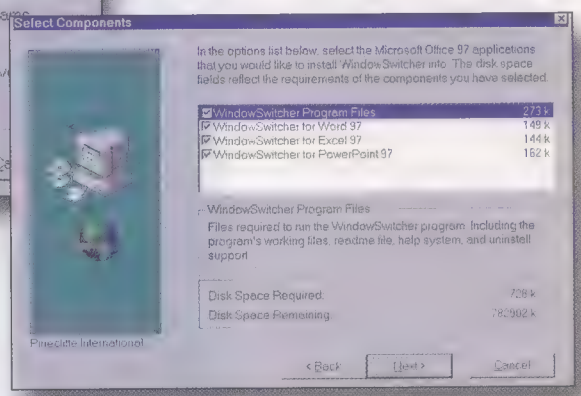
Free Utility: WindowSwitcher

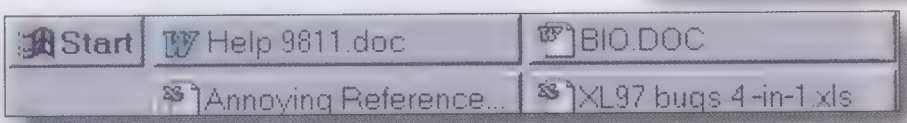
WindowSwitcher, another great utility from Mike Craven, makes switching between Office 97 documents hassle-free. It puts a button on the Windows Taskbar for each open document. WindowSwitcher is available only from *PC Computing* in the ZDNet Software Library. Here's how it works.



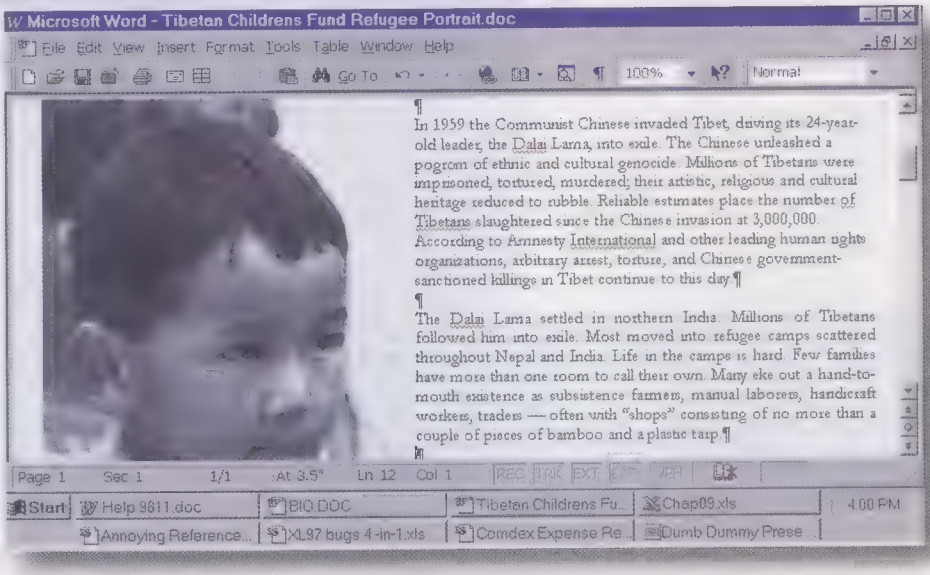
Step 1 Download switcher.exe from www.pccomputing.com. Run the program and the automatic installer kicks in.

Step 2 WindowSwitcher works with Word 97, Excel 97, and PowerPoint 97. Pick the apps you want to use it with.





Step 3 Every open Word document, Excel workbook, and PowerPoint presentation appears in the Windows Taskbar on its own button.



Step 4 Simply click on the appropriate button to change documents and applications. WindowSwitcher takes care of the details.

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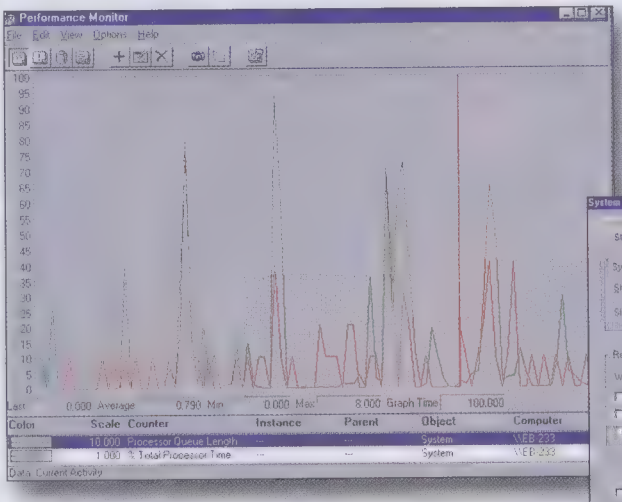
By Ed Bott
For more Windows NT and 98 news, head to www.pccomputing.com/edbott.

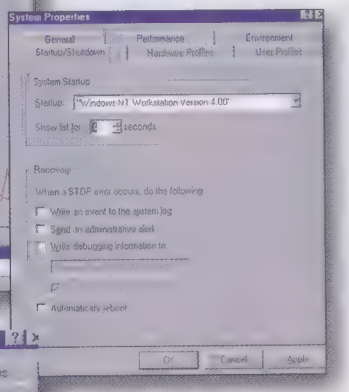
NT Speedup Tricks

Microsoft's industrial-strength operating system demands far more memory, disk space, and CPU muscle than the consumer-friendly Windows 98. So the best way to make your NT PC run faster is to upgrade your hardware—especially memory (64MB or more is ideal). Then check these crucial settings.

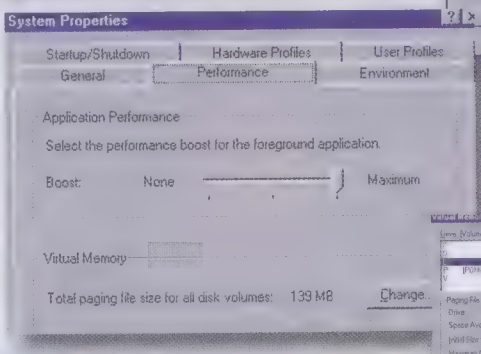
Step 1 Use NT's Performance Monitor to identify bottlenecks in your CPU, disk subsystem, or network. You'll find it under Programs, Administrative Tools, then Performance Monitor. (Read more about this powerful but complex utility in the NT 4.0 Resource Kit.)



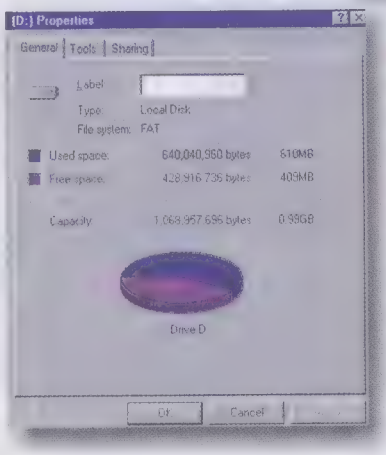
Step 2 Save boot-up time with the Control Panel's System Properties option. Click on the Startup/Shutdown tab and reduce the Startup menu's delay time.



Step 3 Banish out-of-memory messages by checking your swap file settings. On the Performance tab, click on the Virtual Memory Change button to move or resize the swap file.

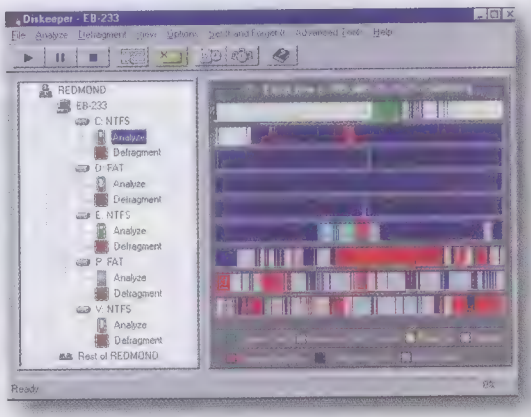


Step 3a By default, NT sets the swap file to the amount of physical RAM available plus 11MB. Boost this setting to as much as 2.5 times your available RAM.



Step 4 Convert your most-used hard disk partitions to NTFS format, which is much faster, more efficient, and more secure than FAT or FAT32. Open a command prompt window and type CONVERT/? to see details for doing so.

Step 5 NT doesn't include a disk defragger, so you need to invest in a third-party defragmenting utility. We recommend Executive Software's Diskeeper (www.diskeeper.com).



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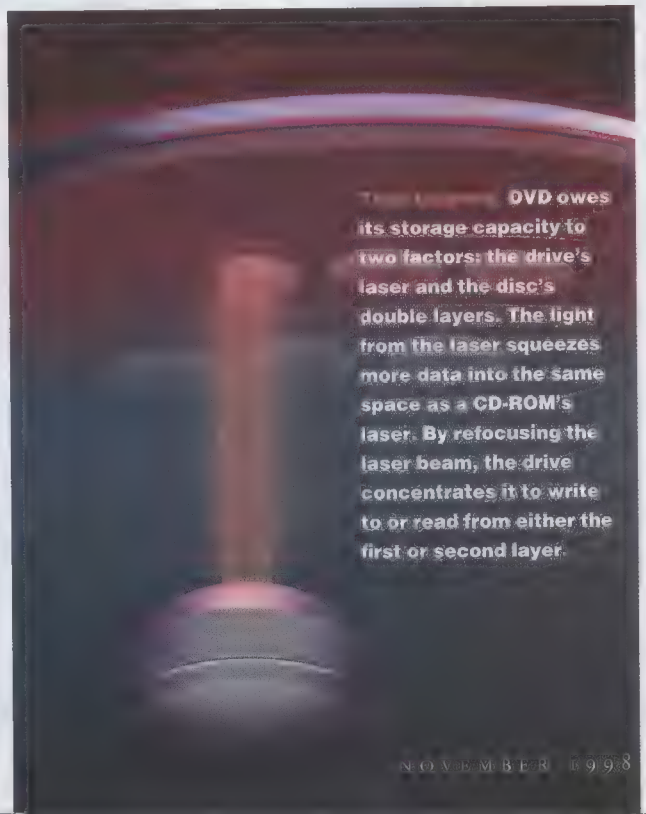
By Ron White
Illustration by Timothy Edward Downs

DVD-RAM

DVD, which holds up to 17GB—the equivalent of more than 26 CD-ROM discs—is the ultimate portable storage. And now new technology makes DVD discs rewritable so you can store, erase, or change data. While we're still waiting for double-sided rewritable DVD to come to market, watch for today's single-sided discs to become the ultimate substitute for the lowly floppy disk.

Overview DVD-RAM discs and drives are similar to CD-ROM discs and drives. The optical discs consist of double layers of metallic film embedded in hard plastic. The drive motor constantly changes the disc's rotational speed to compensate for the location of data on the disc. A laser uses light of varying intensities to write and erase data.

Read/Write The metallic layers in the disc are made of a crystalline material that reflects light the way a mirror does. To write data, the laser heats a metallic layer to 900 to 1,300 degrees Fahrenheit and creates pits in the surface. To erase or change data, a weaker laser beam heats the pits to about 400 degrees.



Two Layers DVD owes its storage capacity to two factors: the drive's laser and the disc's double layers. The light from the laser squeezes more data into the same space as a CD-ROM's laser. By refocusing the laser beam, the drive concentrates it to write to or read from either the first or second layer.

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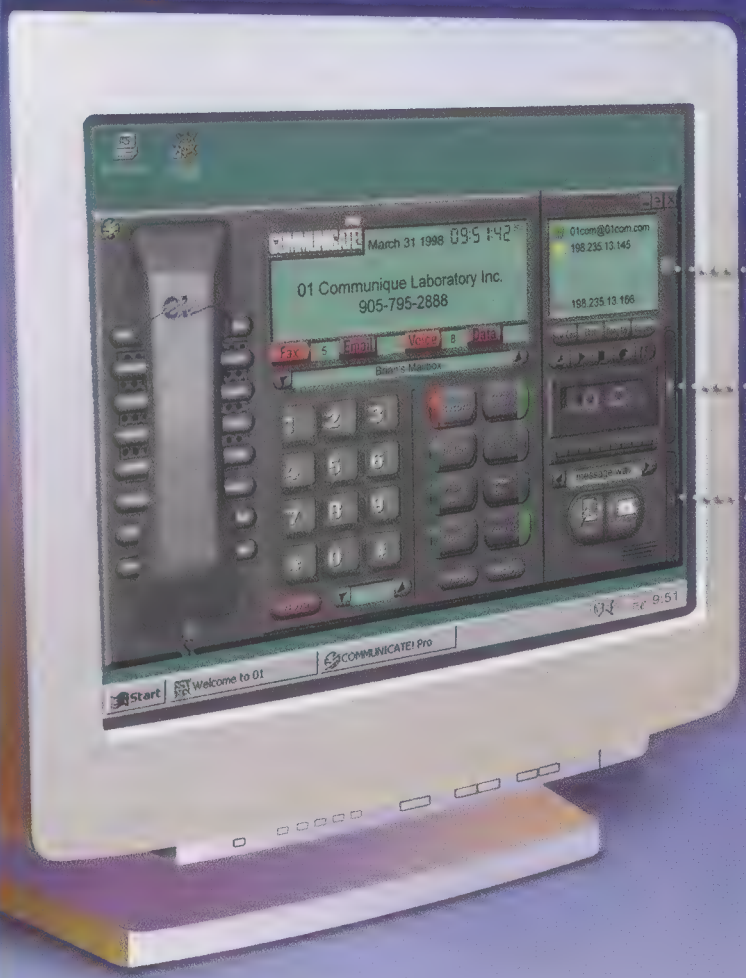

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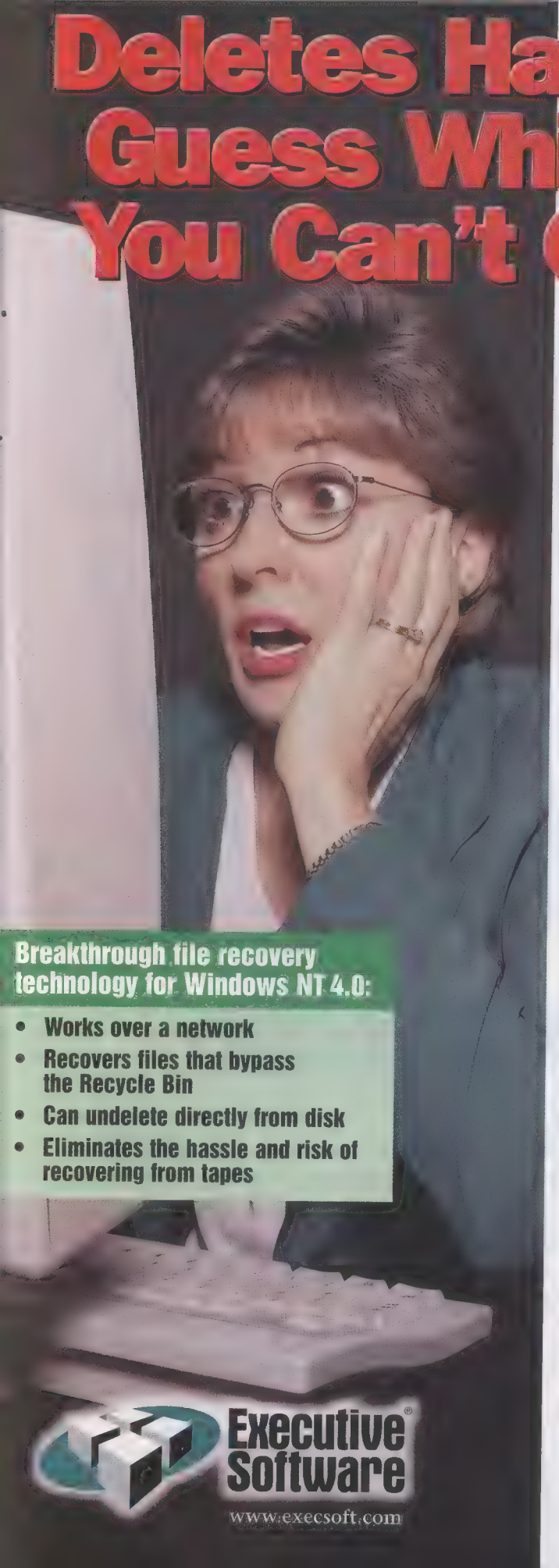

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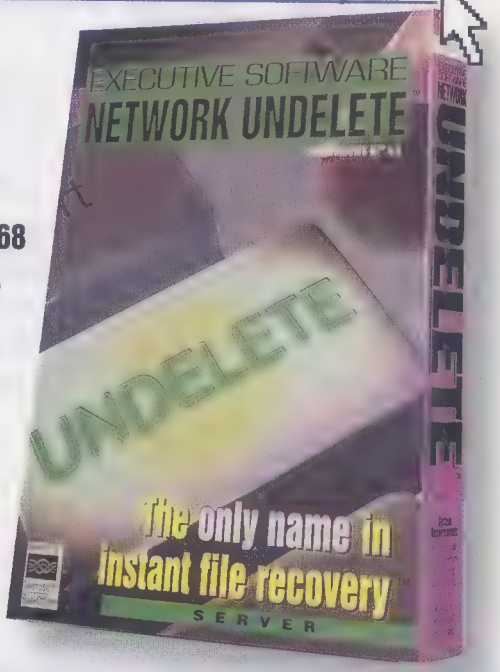

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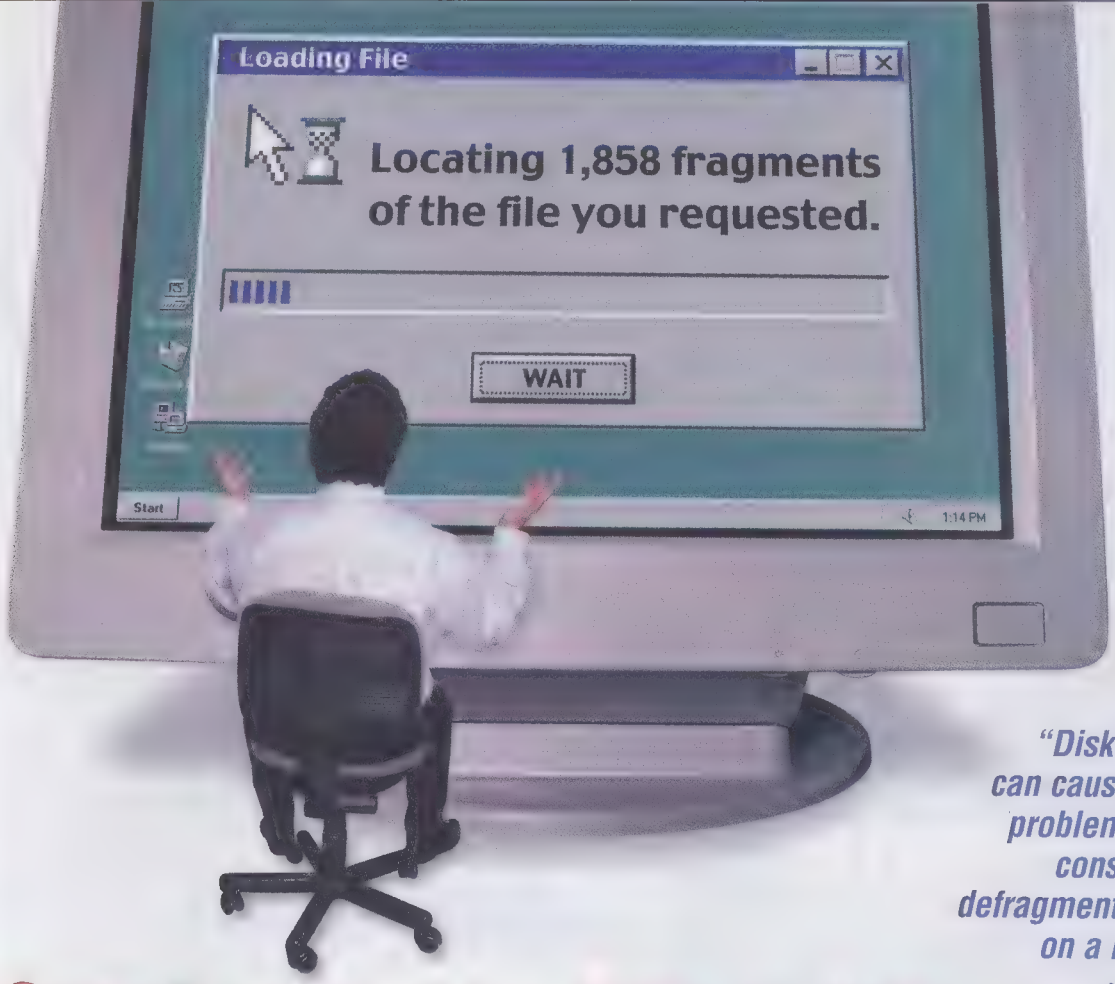

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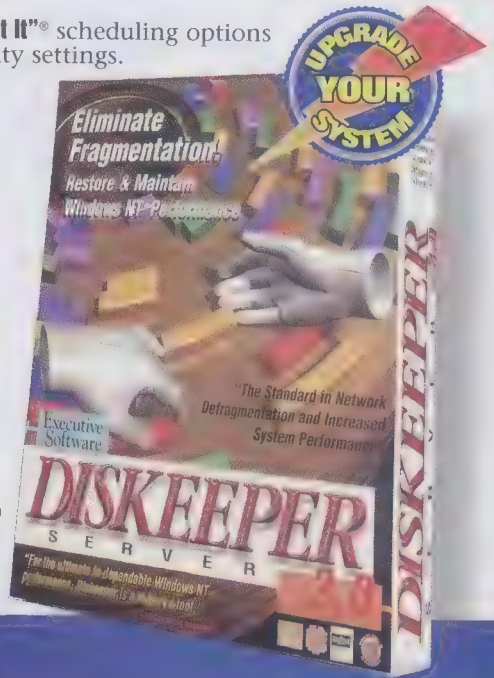

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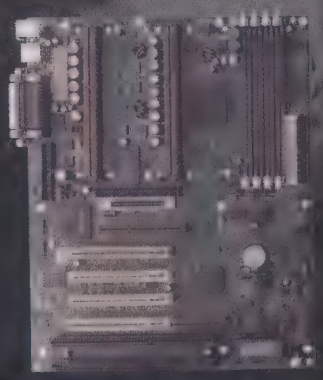

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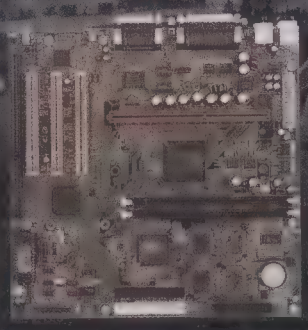

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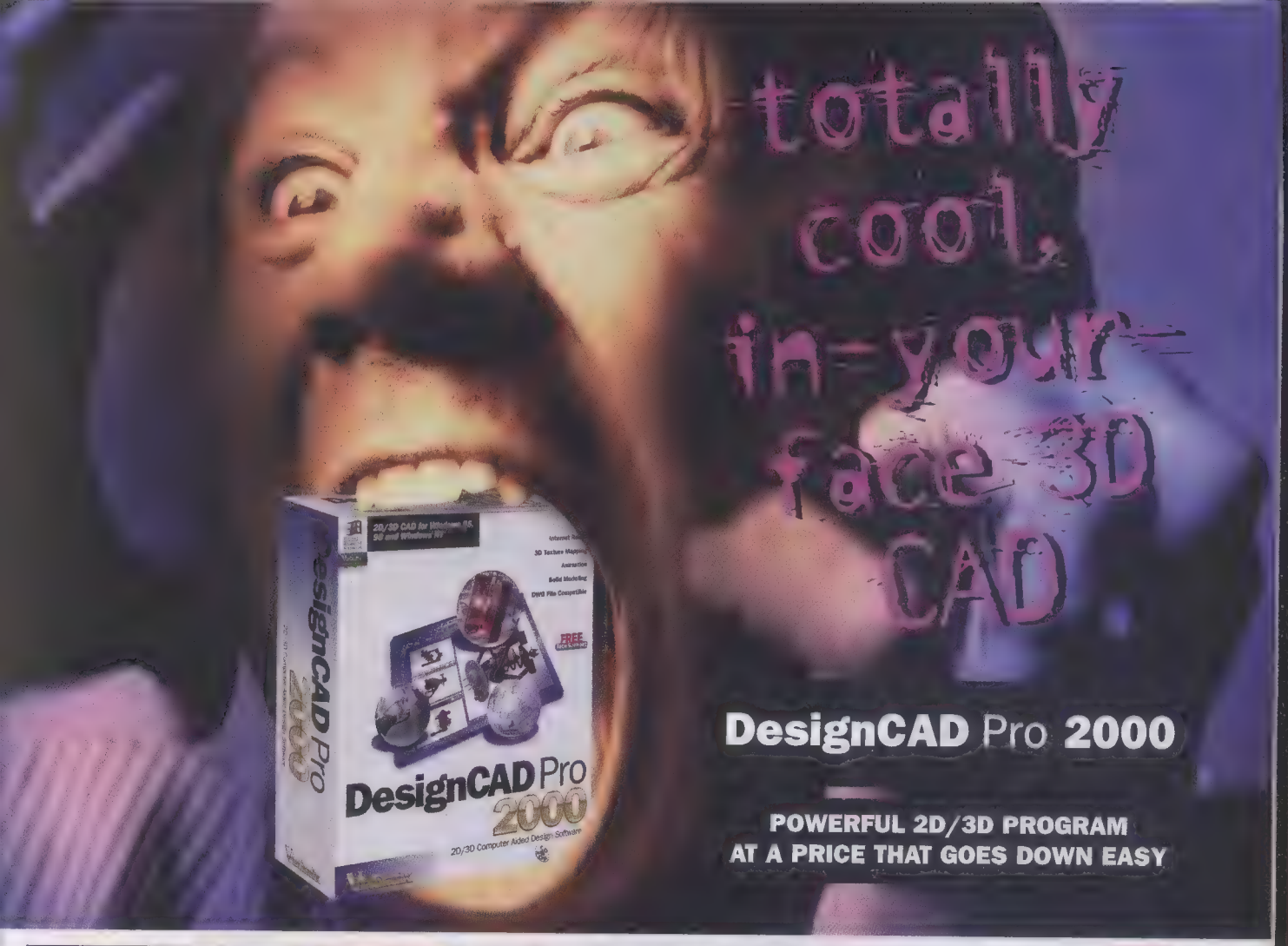
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FEATURES	DesignCAD Pro 2000	AutoCAD R14	AutoCAD LT 97	TurboCAD Pro V5	IntelliCAD 98
NUMBER OF 3D PRIMITIVES	12	11	0	3	11
TEXTURE MAPPING OF 3D OBJECTS	YES!	YES	NO	NO	YES
VRML EXPORT	YES!	NO	NO	YES	NO
3D SURFACE BENDING	YES!	NO	NO	NO	NO
HIDE SELECTED EDGES ON 3D SOLIDS	YES!	YES	NO	NO	YES
ANIMATION MODE	YES!	NO	NO	NO	NO
DRAW 3D SURFACE INTERSECTION	YES!	YES	NO	NO	NO
MOVE CURSOR IN 3D SPACE BY KEYBOARD	YES!	NO	NO	NO	NO
3D SYMBOLS INCLUDED	YES!	NO	NO	YES	NO
ANTI-ALIAS SHADING	YES!	YES	NO	NO	YES
AUTO-WELD MANY SHAPES TO ONE PERIMETER	YES!	NO	NO	NO	NO
CUT ONE PLANE FROM ANOTHER	YES!	YES	NO	NO	YES
MULTIPLE VERSIONS OF DXF & DWG EXPORT	YES!	YES	YES	NO	YES
AUTO-TRACE BMP TO DRAWINGS	YES!	NO	NO	YES	NO
VISIBLE NUMBERED SYMBOL HANDLES	YES!	NO	NO	NO	NO
DIGITIZER TRACING SUPPORT	YES!	YES	YES	NO	NO
DIRECT TWAIN SCANNER SUPPORT	YES!	NO	NO	YES	NO
ZOOM ALL VIEWS TO OBJECT SELECTION	YES!	NO	NO	NO	YES
PANELING: MULTI-PAGE PRINTOUTS TO SCALE	YES!	NO	NO	YES	NO
UNLIMITED FREE TECH SUPPORT	YES!	NO	NO	YES	NO
MULTIPLE DOCUMENT INTERFACE	YES!	NO	NO	YES	YES
FAST VIEW REDRAW OPTIONS	YES!	YES	NO	YES	YES

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VIEWABLE AREA	18.0"	16.1"	16.0"
H-SCAN (KHZ)	24-96	24-96	30-96
MAX. RESOLUTION	1600x1200	1600X1200	1600X1200
OPTIMUM RESOLUTION	1280X1024 @85 Hz	1024X768 @ 85 Hz	1024X768 @ 85 Hz

MODEL	7VXL	7V	5V
CRT	17" MICROFILTER	17" S-MASK	15" S-MASK
DOT PITCH (MM)	0.26	0.27	0.28
VIEWABLE AREA	16.0"	16.0"	13.8"
H-SCAN (KHZ)	30-70	30-70	30-70
MAX. RESOLUTION	1280X1024	1280X1024	1280X1024
OPTIMUM RESOLUTION	1024X768 @ 75Hz	1024X768 @75 Hz	1024X768 @ 75 Hz

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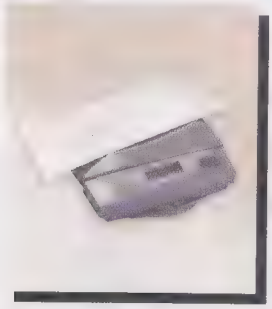

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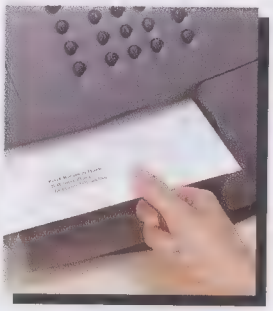
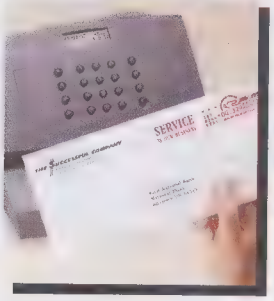
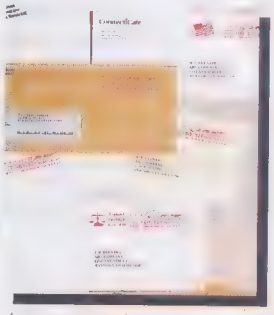


2. Insert envelope and admire instantly metered mail



3. Print a sales message or logo



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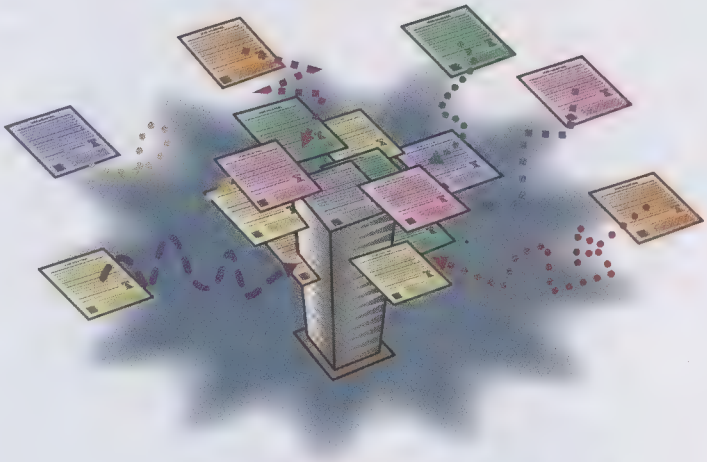

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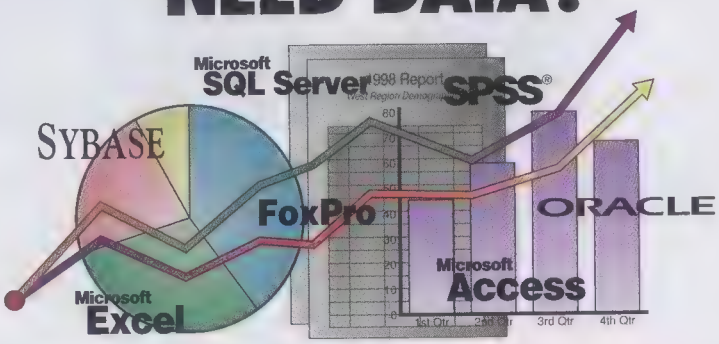

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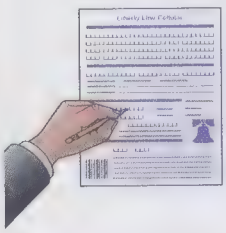

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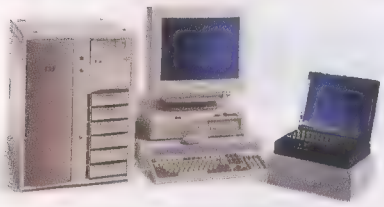

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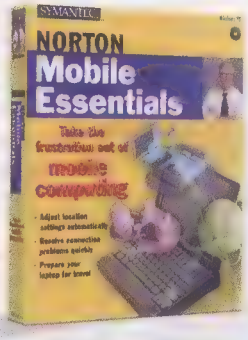

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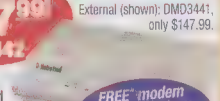

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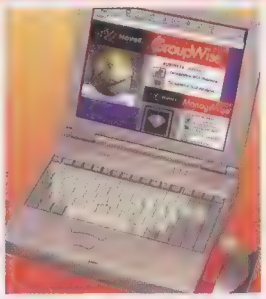

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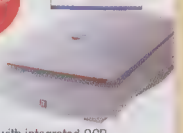

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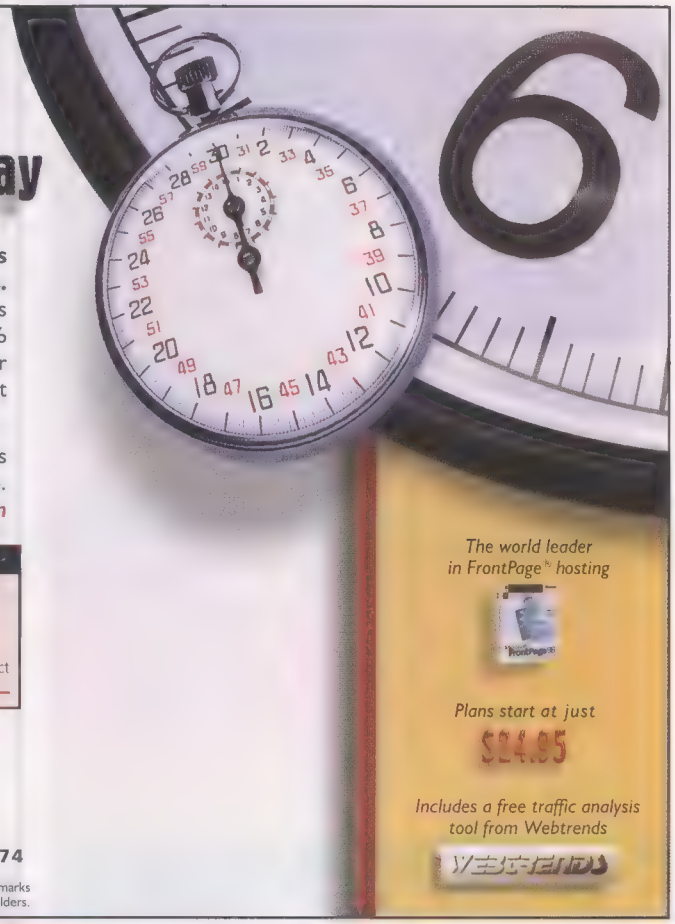

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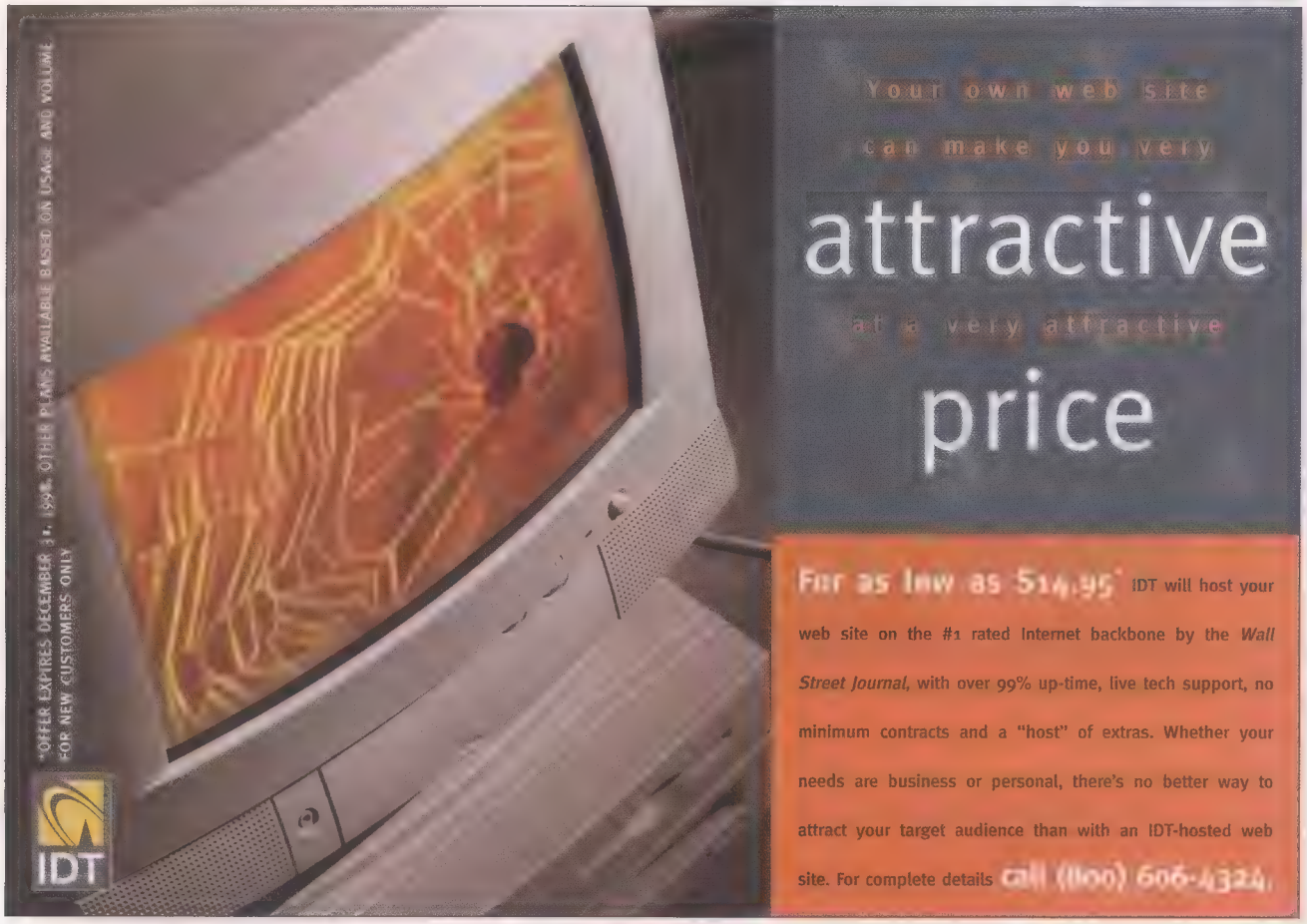

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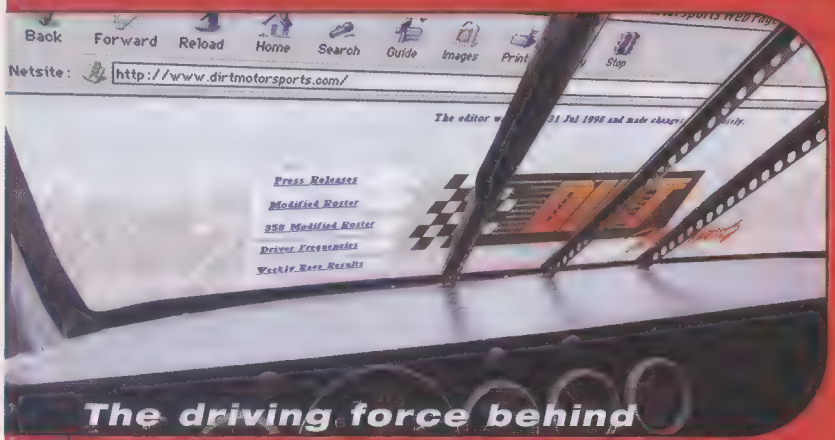

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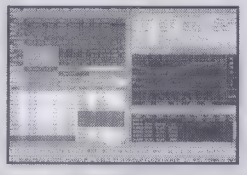

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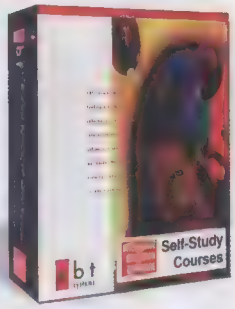

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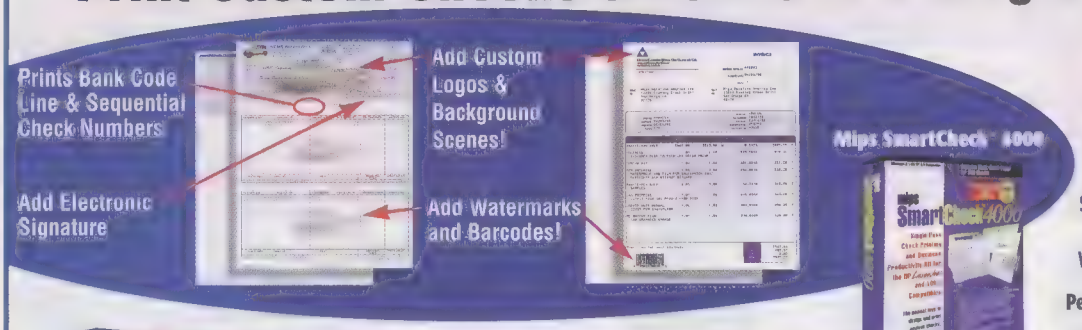

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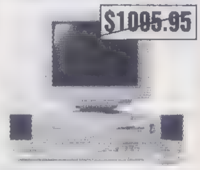

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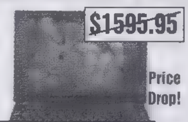

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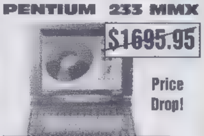

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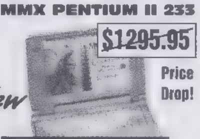

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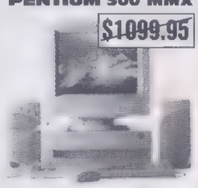

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PC Computing

The Art of Browsing

"Just browsing." We say it all the time to clerks. But why are we so meek about browsing? It's like we're saying, "I have no serious intent of doing anything." Enough! Browsing on the Web is for the brave, the obsessed, for those who download the tools to turn browsing into an art that gets the respect it deserves. Here are those tools.

Speed Demon

☆☆☆☆☆ You've been there. You hit on a page loaded with links you want to visit. One link leads to another, of course, and before long the only way to return to that cool page with all the links is to click Back, Back, Back. . . . MicroSurfer1.0 solves that navigation problem—with Microsoft Internet Explorer only (Netscape's in the wings)—and at the same time speeds surfing to tsunami levels. MicroSurfer appears as a small window you can leave anywhere on your desktop. When you happen upon one of those link-laden pages, just grab links to future surfing sites and drag them to MicroSurfer's window. Not only does it give you a handy list to pick from without all the backing-out nonsense, but while you've been hobnobbing at other sites, MicroSurfer has been preloading the text and images from the pages on the list. So when you finally get around to looking at them, they pop up at warp speed.
MicroSurfer 1.0

Just One Problem

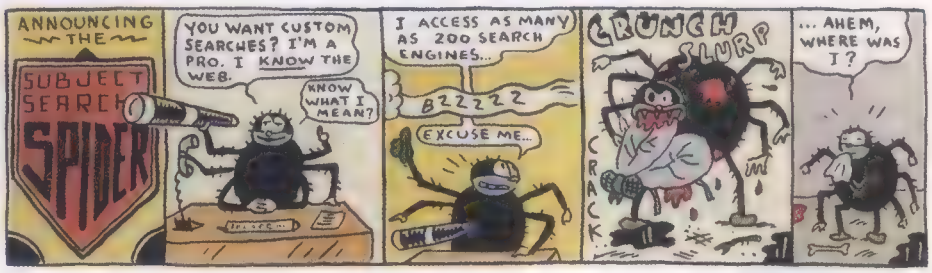
☆☆ WebTurbo for Internet Explorer is a terrific idea. It puts a button on Explorer's toolbar, and clicking on this button opens a window where you can enter either a URL or search terms that are relayed to seven major search engines. Only problem: It doesn't work. WebTurbo jaunts along fine until it tries to grab information off the Net. Then all it displays are error messages. Surely there's an explanation, but I haven't got the time.
WebTurbo

12:00 . . . 12:00 . . .

☆☆☆ The most pressing question about WebVCR is the size of the *cajones* of anyone who would name software after the VCR, the one piece of modern electronics even more baffling than computers. Must be a joke, right? No. This shareware *is* as hard to learn as a VCR, but it's worth learning. WebVCR makes "tapes" of Web sites that you "play back" later. This does not, despite how it sounds, create some automatic slide show. It just copies the current page and other linked pages to your hard drive. Schedule ZDTV's site for recording while you sleep, and wake up the next day to computer news videos without that bothersome download time. Just keep WebVCR's Help file open and take the full 30 days to decide if it's worth $40. WebVCR

ARACHNOPHILIA

☆☆☆☆☆ It violates the free spirit of browsing, but sometimes you do care where you go and how quickly you find something. That's when you need Subject Search Spider (SSSpider). It stores a library of custom searches and feeds the search criteria to as many as 200 different search engines. SSSpider sucks in material as fast as a blue-light sale at Kmart attracts bargain shoppers. Searches are ranked, and you can schedule those you need updated often—such as Bill Clinton/Kenneth Starr popularity polls—for unattended operation. The only flaws: SSSpider doesn't handle Boolean searches (this AND that OR this other thing). The Kahuna uses dozens of search engines in his never-ending quest to find you—our respected readers—more goodies on the Net. SSSpider ranks among the best, well worth $30. Subject Search Spider



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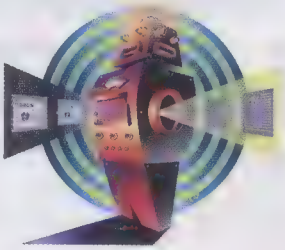


☆☆☆☆ One of the things that stinks about browsing the Web is that you can't always take your PC with you—like to the beach or into the bathtub. These are times that call for old-fashioned paper. Hewlett-Packard is happy to give you a program to convert Web screens into former trees. Used at its simplest level, Web PrintSmart automatically tidies up items like images that don't print, widowed and orphaned lines of type, and split tables. PrintSmart grabs pages—much like SurfSaver—and applies style sheets that give printouts a consistent look even if they're from different sites. Web PrintSmart

Surfing Without Getting Wet

☆☆☆☆☆ Hey! Where'd it go? You find a Web page you know you'll want to visit again, so you bookmark it. But when you come back to it a few months later, the page has been updated with stuff you don't want—or worse, it's disappeared. Sure, you can save pages on your hard drive, but it's a pain and you lose the pretty pictures. One solution is to use SurfSaver. The program adds itself to the right-click menu, where you can quickly save pages to a default folder. Later, offline, SurfSaver's search engine lets you filter down to the pages that you want to see—duplicates of how they looked on the Web, with links still intact. There's no better way to organize Web info, although there would be if SurfSaver let you create subcategories (in the works for the next version, according to a source close to Independent Counsel Kenneth Starr). You have 30 days before you're expected to pay $30. Pay it. This one's a keeper.
SurfSaver

A Pox on Both Their Houses

☆☆☆☆☆ We've got Internet Explorer and Netscape Navigator, two browsers with a common heritage that includes interfaces clearly the work of a programmer gone mad. You'd think there would be a No. 3—some alternative to the click and clack of the two biggies. There is: Opera, an elegant $35 piece of shareware that's faster and easier to use than either of the others.
Opera

Zapped

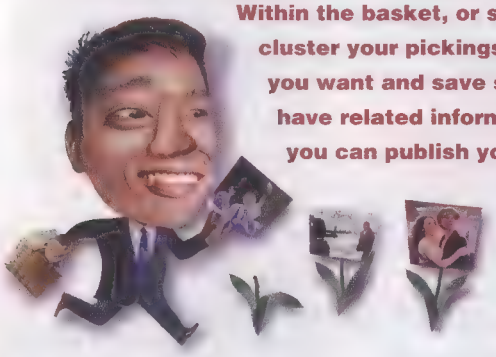
☆☆☆ I'm writing about Zing quickly so I can hurry up and uninstall it. Oh, Zing's not that bad. At first it was kind of fun to have it offer up a cartoon, a joke, a quote, a snatch of music, a French lesson, or even an interesting piece of art while I was waiting for a Web page to appear. The items are pulled from local files—updated occasionally from the Net—so they do nothing to lengthen the time it takes to suck down and display Web pages. But after a while I found myself taking out my irritation at slow service on Zing. I understand its purpose: to give me something to do during what would otherwise be agonizing seconds of boredom. And it would have been OK if I could run the program only on those rare days when I'm in a good mood. But I became irritated at Zing's distractions and tired of turning off the program each time exasperation set in. When that happened, Zing had to take the fall. Sure, that's not fair, but fair's got nothing to do with it.
Zing

Have It All

☆☆☆☆☆ Using both Internet Explorer and Netscape Navigator? Get LinkSync, you two-timer! It merges Favorites and Bookmarks and gives you access to all your links—for a mere $15 registration fee.
LinkSync

STRIPPED FOR ACTION

☆☆☆ HomeStrip 1.1 is a weirdy, one of those programs you'll either hate or love—something you'd find in the cyber equivalent of Spencer Gifts. With HomeStrip you drag images or segments of text or graphics to a HomeStrip window at the side of your browser—sort of like picking flowers from different gardens and putting them in the same basket. The pickings appear in miniature in HomeStrip's window, and when you click on anything in the collection it's displayed at full size. Within the basket, or strip, you cluster your pickings in any order you want and save strips that have related information. Then you can publish your strips as HTML documents.
HomeStrip 1.1



By Ron White

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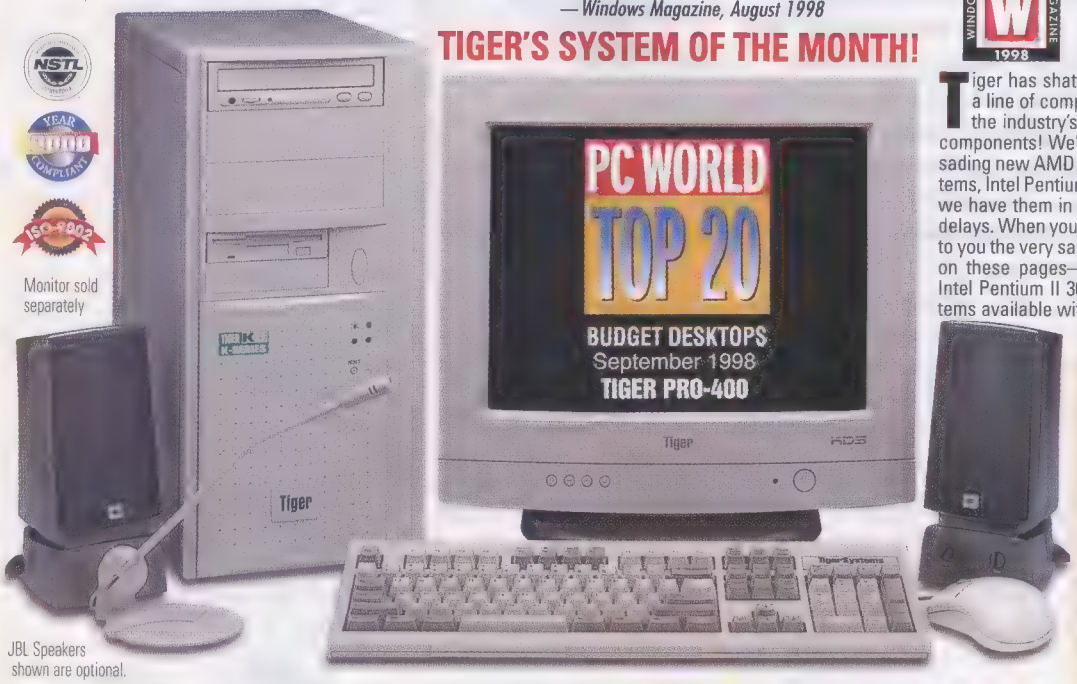

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Close-Up

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DUAL CONTROLS: Touch Pad with 2 Buttons.
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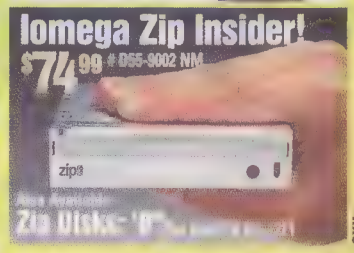
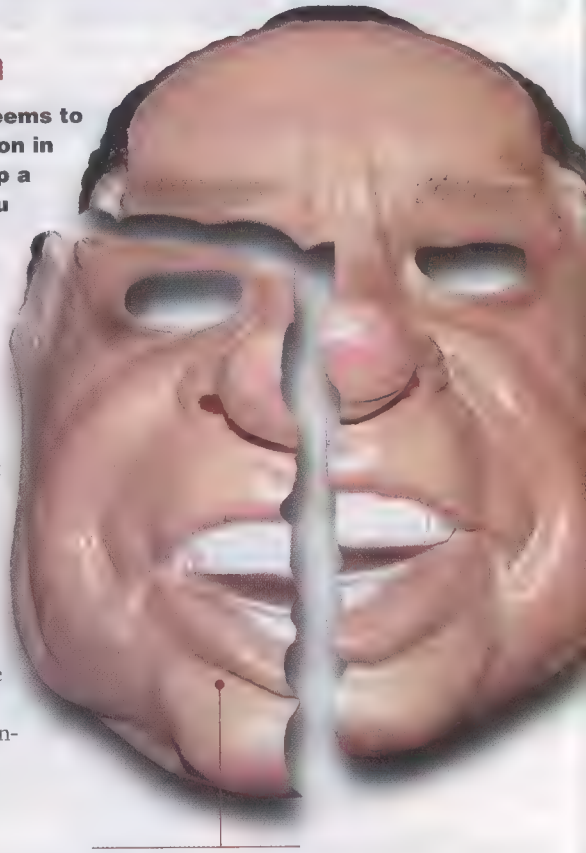


Zip Disks: "F"

CXX

Ever lied about your identity on the Internet?

One-third of you said yes. And it seems to be a habit—like always entering wrong or misleading information in online forms ("It's none of their business anyway") or setting up a decoy e-mail address to intercept spam. A little over half of you who have gone undercover said you've assumed a false identity in chat rooms or discussion forums. A smaller number of you—11 percent—have lied about yourselves during the course of an online romance.

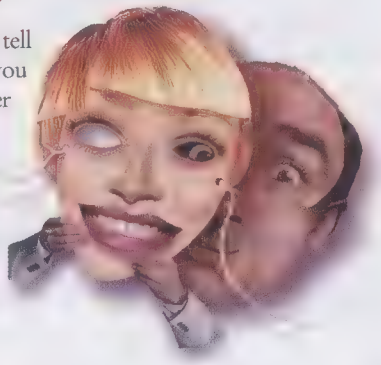


What was your motive?

Twenty-six percent of you said you just wanted anonymity. And you were curious about an illicit chat room. Minor detail. But almost as many—20 percent—sought to grab information without being tagged by an Internet robot whose sole purpose is to sniff out marketing targets. That's when the spam starts coming. And the phone rings during dinner. But if you're not giving out a phony phone number on Web-based forms (some of you use a fax number instead—tricky), then you're spying on the competition or on other people. One survey respondent masterminded a plan to test her brother-in-law's fidelity by propositioning him online for an in-person meeting. He showed up. Whoops.

What was the outcome?

With your history, you probably wouldn't tell the truth anyway. Fifty-eight percent said you were just having fun with your Internet alter ego. Nothing more. Our favorite story? The respondent who impersonated his or her daughter while playing an online game with other kids. Needless to say, the adult impostor won. A smaller number (12 percent) finagled access to valuable information you would have otherwise been denied.



33%

Tricky . . . you want to guard your privacy, exact revenge, spy on people. That's why one-third of you lie about who you really are on the Web. If we can trust you, that is.

Would you do it again?

Sure, why not? Sixty-eight percent of you wouldn't think twice. Which is not surprising, since 93 percent got away with it the first time. And 13 percent of you never remove your disguise long enough to have it cleaned: You're lurking on the Net under false pretenses as we speak. And it's no wonder, with telemarketers rudely interrupting *Seinfeld* reruns and junk e-mail clogging your in-box. At least two states—Nevada and Washington—now have laws that let you take legal action against chronic spammers.

ILLUSTRATIONS BY MICHAEL SLACK, ELIZABETH BRANDT, AND SCOTT MATHEWS

By Leslie Ayers

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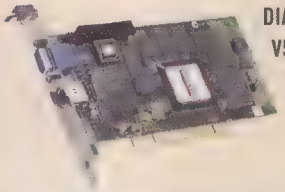
Watch movies on your PC—or just boost graphics in business apps and games. You have two chances to win Diamond's stellar Viper V550 video card from PC Computing Online at www.pccomputing.com.



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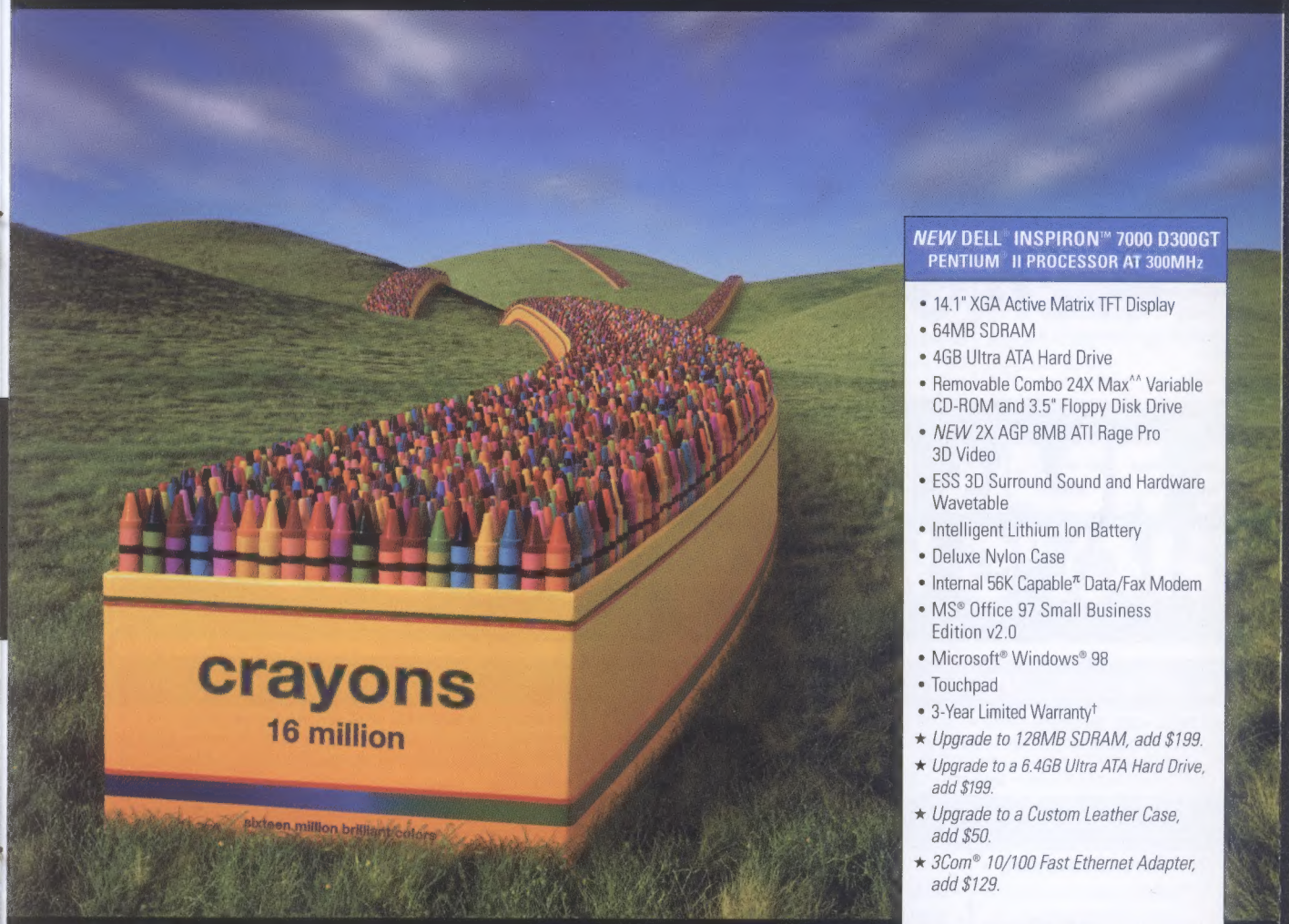

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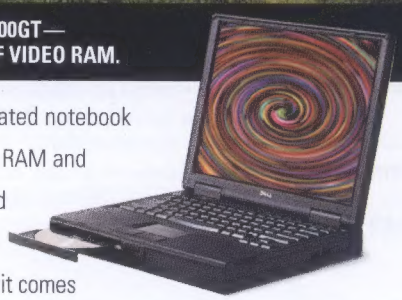

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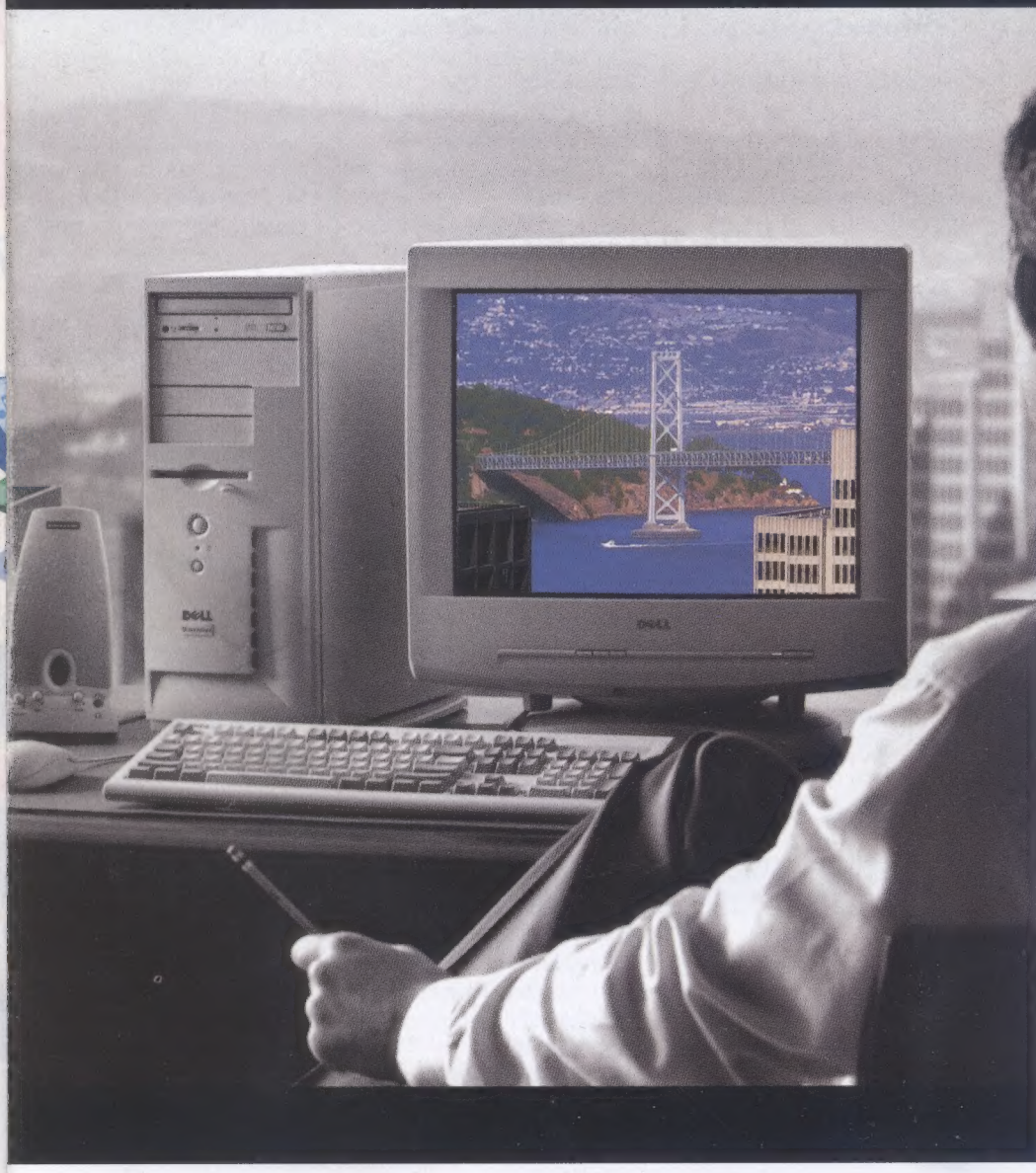

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